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Painful Points and Problems

Edw. K. Lawrence, M.D., Hiawatha

Read before the Annual Meeting of the Kansas Medical Society, Manhattan, Kan., May 5, 6 and 7, 1931.

Every speaker is obsessed with the idea that his subject is the real and important one. In this case we will all admit that to the victim of any form of pain his is the one and outstanding ailment around which all of the medical art should center. If a physician is to win the good will of a patient suffering from any form of pain he must get busy and obtain relief at once. The routine administration of opiates is not advisable, even though the cessation of pain is agreeable. The old adage is very trite, "be sure you are right, then go ahead," or medically paraphrased, "be sure of your diagnosis, then proceed to treat."

As pain is a purely subjective symptom, its intensity must be estimated by the statements of the sufferer, by the manifestations of its presence, and by the nature of any lesion which may be discovered as its probable cause. Much depends upon the skill and experience of the observer in judging individual susceptibility. The variations in pain sensibility are very great, and are racial as well as individual. The Semitic stock, and the Celtic and Latin groups, appear to possess an average greater sensitiveness than do the Teutonic and Slavic people. The most important variations, however, are personal or individual. The neurotic patient will complain bitterly of pain from a cause which, in one of dull sensibilities, will give rise to simple discomfort. It is to be remembered that the pain suffered by the abnormally sensitive person has as real existence in his consciousness as does the slight discomfort felt, from the same cause, by those of less acute pain perception.

In all cases in which pain is a symptom a careful investigation should be made in order to discover any existing objective condition which may constitute corroborative evidence of the truth of the patient's statements. In view of the fact that sad mistakes have occurred, it is best not to err on the side of skepticism, but to credit subjective testimony until some anatomical incongruity is found, or some sudden shifting of the seat of pain occurs which is incompatible with the ascertained objective symptoms.

There have been, for several years, two principal schools of teaching in regard to the mechanism of visceral pain. One of these schools, of which Henry Head was the prime exponent, holds, in effect, that there is no such thing as visceral pain, in the sense that sensation is felt in, or referred to, the viscus itself, but that it is referred to some associated body area (usually some skin area) supplied by the same segment of the spinal cord. Head reduced this view to a physiologic law, which goes by his name, and mapped out the somatic areas of referred pain for each of the viscera, to serve as diagnostic guides in the interpretation of visceral pain. The other school, of which there is no special advocate, but which has always been supported by the majority of physicians, while recognizing that visceral pain may be, and often is, attended by referred pain in certain defined body areas, maintains that the viscus itself is quite capable of registering pain sensations under the stimulation of pathologic processes; that is to say, that there is a true visceral pain felt in, or referred to, the viscus. One idea brought out is, that a factor present in cases of visceral pain is an increase of interior pressure and muscular tension, also that there are sensory elements associated with visceral disease which are not felt in the viscus itself, but are referred to body areas in accordance with Head's ideas. It is also observed that there are patho-

logic elements in visceral disease which do not manifest themselves within the organ in either muscular tension or painful reaction to normal tension. This pathological element is a condition of deterioration or modification which affects the parenchyma and to which the viscus itself is not painfully responsive. It would seem logical to conclude that it is this element which registers itself in a sensation of pain referred, through the spinal centers, to definitely outlined body areas.

Ryle, of Guy's Hospital, London, has summed the matter up in the following: "(a) Visceral pain is due to an abnormal increase in the tension of the muscular element of the wall of the viscus, resulting either from contraction or from failure to relax on the part of the muscle fibres in the presence of increased intravisceral pressure. This visceral pain may be accurately localized by the patient. (b) Referred body pain and tenderness, that is, viscero-sensory reflexes, more frequently express a degenerative lesion of the viscus."

Guarded though we should be in accepting the observation of our patients as accurate evidence, we must attach some importance to certain gestures which the sick may employ in indicating the seat and nature of their pain. These gestures do not always apply to a body area but may point to the location of the affected organ. Thus, in describing the pain of angina pectoris, the patient lays his hand, usually clenched, upon the front of his sternum, as though to indicate the median location of his pain, and, at the same time, its gripping character. A cardiac pain, on the other hand, is indicated by applying the flat of his hand to the sub-mammary region. The pain of gastric ulcer is indicated with the tips of two or three fingers applied to the mid-epigastric region or slightly to the left of this point, and a duodenal ulcer by a similar gesture just to the right of the mid-line. With other involved tissues, the patient's statements are at least as suggestive; for example, the arm pain in angina, subscapular tenderness in chronic liver disorders, and the testicular soreness in some kidney and bladder lesions. Other illustrations will occur to you from your own experience and practice. These reflected pains rarely accompany visceral disease of a purely functional character, but are generally associated with organic changes. Indeed, so uniformly has Ryle observed these associations that he has formulated a guiding rule as follows: "Visceral pain expresses a perturbation of visceral function, while the reflected pains generally express a structural lesion."

The pain of gall-bladder disease is most often a combination of the visceral and the referred pains, for the obvious reason that gall-stones and cholecystitis are usually associated, a combination of both functional and structural derangement; however, where they are not both present, only one type being observed, there is probably no other disease in which the differential diagnostic significance of the two types is so clearly cut as in gall-bladder affections.

The scope of this paper will not permit going into detail with the various intestinal lesions causing pain, nor the female pelvis and its contents which offer a field of pain possibilities extending from the painful heel of a sick ovary to the occipital headache of the deranged uterus. That calls for a fair-sized volume. The urinary system has its own troubles, the heart presents pain symptoms requiring much care in their evaluation and application. Nearly every organ has both its immediate and remote group of symptoms.

Briefly, the ideas of Head, Ryle and others, which I want to bring out, are that pain located within the affected organ is usually functional; when manifested at remote points is more apt to be structural. If pain appears at both locations both types of pathology probably exist.

In conclusion, I would touch on the matter of treatment to this extent: first determine the cause of the pain, and when possible to do so, get relief without recourse to opiates. But the doctor who does not have a supply of morphine or a similar analgesic at hand with which to secure immediate surcease of pain, is poorly equipped indeed, and his former

unrelieved patients will so adversely comment on his treatment that he will soon have an abundance of time in which to study and learn how to drive, from bodies racked and torn, that diabolic essence, pain.

The Treatment of Post-Operative Abdominal Distention

THOMAS G. ORR, M.D., Kansas City, Kan.

Read before the Annual Meeting of the Kansas Medical Society, Manhattan, Kan., May 5, 6 and 7, 1931.

Abdominal distention is the postoperative distress signal with which every general surgeon is familiar. As long as there is no distention following peritoneal section, both the patient and the surgeon will usually pass the convalescent days in comfort. The colic of so-called "gas pains" may be the only manifestation of distress. On the other hand, there may develop one of the three fulminating catastrophes — obstruction of the bowel, strangulation of the bowel or general peritonitis—any one of which may tax the surgical skill of the doctor to its utmost capacity.

The means of preventing postoperative abdominal distention should be given the most careful consideration. Undoubtedly certain methods of preparing the patient for operation, which have been so much used in the past, have had much to do with producing abdominal distention and distress. It is now generally recognized that cathartics should not be given the night before operation. Patients should not be deprived of food and water. It is logical to assume that patients will make the best recoveries who reach the operating table in as near a normal state as possible. An enema or enemas should be given the afternoon or night before and not the morning of operation. The intestine should not be irritated or otherwise functionally disturbed immediately before operation. Sufficient food the night before should be given to prevent hunger. This, of course, should be food with little residue. Water should be given in liberal quantities up to three hours before the time set for operation. If it is not advisable to give food and water by mouth it should be supplied as glucose and saline solution. Briefly, water, food, rest and sleep should be the watchwords in preoperative treatment.

Abdominal distention may involve any part of the gastrointestinal tract. We are seldom concerned with acute dilatation of the colon, but acute dilatation of the stomach or small intestine should always receive serious attention. Dr. LeRoy Long[1] has very aptly spoken of postoperative distention as "postoperative intestinal incompetence." As soon as the distention or intestinal incompetence is relieved, the patient is relieved. Postoperative lesions within the abdomen rarely cause any concern when not associated with distention. Our attention, therefore, should be chiefly directed toward the treatment of distention, which, of course, includes the removing of its cause.

One of the most interesting phenomena producing postoperative distention is acute dilatation of the stomach, and truly this is one of the most rapidly fatal of the various types of distention. Here the quantity of liquid collected in the stomach is much in excess of the intake, producing a very rapid dehydration. Regardless of the actual etiology and pathology of this condition—concerning which there is some dispute—it should be considered an obstruction at the pylorus or of the duodenum.

The colic produced by so-called "gas pains" is usually of little importance from the prognostic standpoint, but may cause the patient much distress. They should be carefully considered, however, since they may be the initiation of paralytic ileus. The latter condition is serious and may, if neglected, result in death. The progress of postoperative distention quite naturally involves the careful differential diagnosis between the latter condition and its more serious associates—mechanical obstruction and generalizing peritonitis.

The treatment of postoperative distention, regardless of its cause, involves certain fundamental factors. They may be classified as follows: 1, relief of dehydration; 2, supply of food; 3, relief of hypochloraemia, if the salt balance has been disturbed; 4, restoration of gut

tone; 5, removal of bowel and stomach content; 6, release of mechanical obstruction; 7, drainage of inflammatory processes if present.

The treatment of dehydration really should be started before operation. It is a good general principle to see that all patients, who are to have abdominal surgery, be given food and water as indicated in a preceding paragraph. It is unwise to reduce a patient's food intake for a long period before operation. The wisdom of this statement is illustrated in the convalescence of many of our emergency surgical patients. It has been noted by almost every surgeon that the acute conditions arising within the abdomen, followed by operation within a few hours, usually convalesce rapidly. If a patient has been vomiting either before or after operation, careful attention should not only be given to dehydration, but to reduction in the body chlorides. The administration of sodium chloride in sufficient quantities to maintain chloride balance is absolutely essential for the proper progress of postoperative patients. Salt has a direct bearing upon the water distribution in the body, and very probably has a definite action in maintaining the tone of the gut musculature. It is also a factor in restoring to normal the various changes in the chemistry of the blood incident to obstructive lesions of the intestine. Distilled water alone is not usually indicated in the treatment of postoperative distention. It dare not be given intravenously nor should it be given by hypodermoclysis. Distilled water or tap water should be given only by mouth or by rectum. Believing that solutions given by rectum contribute to postoperative abdominal distention, de Takats[2] prefers not to use them at all, if the necessary quantity of fluid can be given through other channels.

How much water, how much food, how much salt and how should these be given are the questions which naturally arise. They are difficult to answer in generalities. With normal standards as a basis, certain elastic rules may be formulated that are of great value in regulating such treatment.

The daily intake of water under usual conditions is 2 to 3 liters. After an abdominal operation a patient of average size should logically receive a minimum of three liters of water per day until liquids are taken normally by mouth and the intake controlled by natural thirst. If there is vomiting the quantity should be increased. If there has been great dehydration before operation, the quantity for the first two or three days should be 4 to 6 liters daily.

The parenteral intake of food is very important if abdominal distention is likely to be prolonged, prohibiting food by mouth. Macleod[3] has stated that the caloric requirement of a 70 kilo man (154 pounds) at rest (asleep) is 1680, which he terms "the basal heat production, or the smallest energy output compatable with health." A solution of glucose given intravenously is the best means of supplying food when it cannot be taken by mouth. It is hardly practical to attempt to maintain body weight. Glucose may be given in 10 per cent solution in physiologic saline in doses of 500 cubic centimeters two to four times per day. It may also be given as 5 per cent solution under the skin. In the very seriously ill a continuous venoclysis may be used to give both saline and glucose.

The administration of sodium chloride should be governed by repeated estimations of the blood chlorides. If they are much below normal, hypertonic sodium chloride solution should be given until they return to normal limits. In any case water should be given as physiologic salt solution, which, in the absence of vomiting, is usually sufficient to maintain sodium chloride balance. Hypertonic sodium chloride may be given intravenously as a 5 per cent solution in doses of 100 to 500 cubic centimeters. Repeated injections of 10 per cent salt solution in 20 cubic centimeter doses may be very useful in stimulating peristalsis. In many cases flatus is expelled immediately after such treatment. It is probably unwise to routinely give stronger than a 1 per cent solution as hypodermoclysis. Unless given very slowly a stronger solution might produce sloughing.

A word of warning concerning intravenous medication is appropriate at this time. Nature never intended that the human being be fed and watered by vein. This method of treatment should, therefore, receive our greatest respect and consideration. Solutions should be fresh and carefully prepared. It is my belief that the single factor of greatest importance in intravenous therapy is the rapidity with which the solution is given. The recent work of Hirshfeld, Hyman and Wanger,[4] in which they describe "speed shock," emphasizes the importance of giving all intravenous solutions slowly. As a working basis physiologic solutions may be given at the rate of 15 cubic centimeters per minute and hypertonic solution 5 cubic centimeters per minute. Continuous venoclysis may be given satisfactorily at a rate of one drop per second. Too much salt solution may cause edema and the lower extremities should be watched for this development. It is apparently also possible to overload the circulatory system by giving solutions too rapidly and in excessive quantity. The output of urine should be carefully observed when giving salt solution and the intake reduced when the output is below normal. Distilled water given intravenously may cause death. Hypertonic solutions not only affect the corpuscles of the blood directly, but cause a marked disturbance of osmotic pressure as shown by Weed and McKibben[5] in their work on brain shrinkage.

It seems probable that sodium chloride is an important factor in maintaining the tone of the gastrointestinal musculature. Undoubtedly peristalsis is stimulated and the bowel tone increased by the experimental injection of hypertonic solution of this salt.[6] The importance of maintaining sodium chloride balance as a means of preventing over distention and paralysis of the stomach or bowel is, therefore, quite apparent.

It is a well known fact that the upper intestinal secretions collect in a distended stomach and bowel, thereby further increasing the distention. Obviously a part of the treatment is to remove this excess of fluid. If vomiting occurs more than once with abdominal distention, it is wise to lavage the stomach, and if vomiting and distention is persistent, the Rehfuss or Levine tube should be left in place until the patient is definitely improved and is free from distention. During this time water by mouth should be permitted ad libitum and the nurse or attendant instructed to withdraw the stomach and duodenal contents every half hour. In this way the patient has the very gratifying privilege of drinking as much water as he wishes and the stomach is continually lavaged. The rectal tube may be used to advantage to aid in expelling gas. Warm, moist packs to the abdomen sometimes seem to be beneficial.

In well selected cases enterostomy is indicated to drain the small intestine. This may be done at the original operation if distention is present and likely to be increased. It is especially indicated in those patients having lower abdominal peritonitis, with loss of function of the coils of gut involved and with distention and increased peristalsis of that portion of the small intestine in the upper abdomen. A drainage of the bowel under such conditions will usually result in restoration of normal function in a few days as the infection subsides.

The place of spinal and splanchnic anaesthesia in the treatment of postoperative distention is still somewhat ill-defined. Unquestionably, spinal anaesthesia is of value in the treatment of selected cases of paralytic ileus and as an anaesthetic in operation for obstruction. There is some doubt, however, regarding the advisability of its use in acute peritonitis and as a treatment for cases in which mechanical obstruction of the bowel lumen is suspected. The promiscuous use of spinal anesthesia in all types of abdominal distention is, I believe, to be condemned. Further study may assign this method of treatment to its proper place in the relief of gaseous distention of the bowel.

The use of drugs in the treatment of distention is a subject of great importance. It is my belief that morphine or pantopon should be used in sufficient quantity to make the patient comfortable and to produce rest and sleep. It is doubtful if morphine acts harmfully by

increasing distention. According to the recent work of Plant and Miller[7] morphine increases both peristalsis and tone of the small bowel. If there are any deleterious effects they seem to be overbalanced by its benefits in producing rest and sleep. Pituitrin has at times been used with success in emptying the bowel. It should be used with caution and is rarely indicated when other methods outlined above are used. Ochsner, Gage and Cutting[8] conclude that pituitary extract would not only seem to be an ineffective drug in the treatment of intestinal atony, but also would appear to be a dangerous drug in such a condition.

The operative release of mechanical obstruction is rarely indicated as a part of the treatment of postoperative distention. If a true obstruction of the gut lumen occurs it should, of course, be treated as any ordinary primary obstruction of like nature. Operation to relieve coils of intestine involved in lower abdominal inflammation often results in death and is rarely indicated. Usually, in such cases, if any operation is needed, enterostomy is much safer than exploration.

In some cases local or generalizing peritonitis may require drainage as a part of the treatment of postoperative distention. Any such surgery should be done with great care so that infection may not be spread. A minimum of anaesthetic and surgery in operations for intra-abdominal infections is always advisable.

CONCLUSIONS

1. The restoration of water and sodium chloride balance are the two most important factors in the treatment of postoperative distention.
2. Distilled or tap water should never be given except by mouth or rectum.
3. The importance of giving intravenous solutions slowly is emphasized.
4. Glucose is never a substitute for sodium chloride in treating distention of the bowel.

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The Treatment of Stealing in Children

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Contrary to the belief of most people, children do not usually steal primarily in order to acquire the stolen object, for in many cases children steal things that they already have at home.

The reasons why they steal are many and complex. Among some of the reasons which careful analysis of many cases has shown are: that there is a low standard of honesty in the home; to revenge themselves against the person from whom they have stolen; that the object stolen has a symbolic meaning or value rather than an intrinsic value; that it excites a feeling of admiration and achieves notoriety for the stealer; sometimes that it is closely associated with the child's expression of a sex life; often that stealing for the child is the only possible retaliation against an intolerable situation or against a hateful tyranny of the home or the school; and, of course, that sometimes they do not know how else to get what they want.

The treatment or correction of the habit—for the compulsion to steal often becomes a habit—consists in finding the motive for stealing and then making a satisfactory substitution, not for the things stolen but for the lack or craving in the child's life which makes him steal.

J. F., age 13, was the first child of well-to-do parents. He required and received a great deal of attention from his parents while a baby, for he had pneumonia on two occasions and was not a strong child until after he was three years old. He has a slight speech defect. Because of some mental retardation, he

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has not been able to keep up in school with children his own age. He began to steal at the age of four, which was shortly after a baby boy, the second child of his parents, was born into the family. In spite of talking, reasoning, deprivation, whipping, in fact all the usual and time-honored punishments used to stop children from stealing, he has continued to steal at irregular intervals. He was sent to the Southard School on account of his stealing and also because he was regarded as being mentally retarded.

After entering the school he continued his stealing for a while, taking some stamps from another boy, although he had stamps of his own, and on another occasion taking scissors from his roommate, and occasionally taking pencils from the superintendent's office.

From the history and after observation at the school, it seemed clear that his stealing was due to a combination of motives. He apparently first used stealing as a protest against the presence of his baby brother in the home and as a means to regain the attention that had been diverted from him to the new brother. Later on, as a compensation for his scholastic difficulties and speech defect, he attempted to achieve notoriety and notice as a stealer as a form of compensation. It seems probable that he used stealing after coming to the school as a retaliation or protest against an unhappy situation in his present school life, namely, a lack of friendship with boys his own age.

On the assumption that his motives for stealing were as outlined the solution of his problem was undertaken in a general way by an attempt to make a satisfactory substitution for the attention and notoriety that he craved and at the same time substitute something for his lack of friendship with boys of his own age. Specifically, this was done by having a physician on the staff of the school with whom the boy had made friendly overtures, manifest special interest in the boy. He managed to have at least once daily a friendly visit with the boy individually. During these interviews an especial attempt was made to discover the boy's problem and to encourage his personal ambitions and interests. At least once a week some activity that the boy was especially interested in, and had planned himself, was undertaken. As an example, going to an intercollegiate football game was planned for one week. No one but the boy and the physician are included in these projects and excursions and they are considered by the boy as his own individual affair.

No mention was ever made of his stealing, in fact the habit was absolutely ignored, but an occasional reference was made to different characters, especially his father, who are worthy of emulation. In this way advantage was taken of the fact that most boys to a great extent do try to be like their fathers. It is fortunate, indeed, when a father can set a worthy example for his son to follow. This happens to be the case with J. F.'s father for he does deservingly hold a position of great trust in a large organization. It was always pointed out to J. F. that these characters, including his father, could not possibly have attained the positions of honor and trust which they hold had they not been strictly honest and upright in all of their dealings toward society in general. The boy has not stolen anything since treatment was instituted over five months ago.

DISCUSSION

Stealing is a harsh word to apply to the acts of children. It is associated so closely with a criminal career and one so naturally thinks of jails and prisons, highwaymen and robbers, that childhood and this type of delinquency seem almost incompatible.[1]

However, parents should not permit themselves to be deceived about the practice of their child appropriating articles belonging to others by excusing the practice under the guise of belittling it in their own child, by saying that it is "cute", "that the child does not know what he is doing," and "that he does not realize that it is the same thing as stealing," and "that sneaking candy and food around the house and taking the playthings of his associates are not really stealing." The trouble about all of this is that the child cannot live under the protection of his parents at home all

his life and that the practices that can be excused and overlooked at home because of immaturity may be considered evidences of criminal tendencies after leaving the protection of the home. It will not take long for the child's associates to label him as crooked.

Stealing is not a natural nor normal outgrowth or deviation from the normal instinctive tendency to acquisition that all children have which manifests itself when children collect stamps, pop bottle caps, blotters, calendars, old automobile license plates, stickers, badges, and what not. In this simple acquisition trait there is not the element of taking things from someone else that there is in stealing.

Children are born into the world, dominated entirely by selfish motives and the sum total of their physical and mental activities is directed toward seeking pleasure and avoiding pain. Parents should take advantage of this fact to instill at an early age into the mind of the child not only that respecting the property rights of others but that observing all of the socially accepted rules of conduct inevitably reacts to his advantage by giving him pleasure and happiness. The child can also learn at an early age that on the contrary, appropriating the property of others as well as other unsocial conduct always reacts to his disadvantage by causing him unhappiness and pain.

Advantage can be taken, too, of this pleasure-pain principle in finding the underlying motives for the child's stealing by attempting to detect what pain and unhappiness the child is trying to avoid by stealing, or what pleasure or happiness the child is seeking in his life by stealing.

SUMMARY AND CONCLUSION

Successful treatment has been instituted in the case of a thirteen-year-old boy who has consistently stolen since he was four years old in spite of every effort that has been made to stop him.

It was especially noticeable that he did not steal primarily to acquire the thing stolen, for he took stamps when he had stamps of his own.

Treatment consisted in finding the motive for his stealing and then making a satisfactory substitution for the lack or craving in the boy's life which made him steal.

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Jaundice

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Jaundice, or icterus, is a symptom of disease. It signifies the presence of an excess of bilirubin in the blood due to (1) obstruction, (2) infection and (3) hemolysis. And so, there are three types of jaundice (1) obstructive, (2) toxic and infectious and (3) hemolytic.

Bilirubin is the substance giving the yellowish color to blood serum. It is found in the blood under normal conditions in the ratio of about one part to 500,000 parts of blood serum. If the ratio exceeds one part to 50,000 jaundice is apparent.

Bilirubin is a pigment derived from hemoglobin, and hemoglobin seems to be its sole source. The red blood cells, after a limited existence of about three weeks are broken down and their hemoglobin splits into two parts, only one of which contains iron. It is from the iron-free portion that the bilirubin is derived and thus is apparently a waste product of erythrocytic catabolism. There is no evidence that bilirubin is useful to the organism, nor that it has toxic properties when retained in the body.

Up until a few years ago the concept of Minkowski and Naunyn that this change was brought about in the liver alone, and that it was impossible to have jaundice without injury to liver cells, was generally accepted. The work of Mann and of Whipple, the one removing the liver and the other excluding it from the general circulation in experimental animals, showed that this is not true. In these animals hemoglobin was injected into the veins and was found to be transformed into bilirubin. Then McNee showed that the reticulo-endothelial system is capable of changing hemoglobin into bilirubin.

Now a word as to the so-called reticulo-endothelial system. For many

years it has been known that there were certain cells scattered through the body that had important functions relating to phogocytosis, increased blood destruction and possibly immunity production. Sporadic and disconnected observations often concerned only incidentally with the activity of these cells, appeared in the literature until in 1913, Aschoff and Landau proposed "to group together special types of cells of wide distribution as a system of reticulo-endothelial cells." First as to the form and distribution of these cells.

In 1904 Ribbert definitely segregated a finely granular branching connective tissue cell in his interesting observations on the retention of carmine by tissues. When one injects carmine into an animal the coloring matter is not entirely eliminated by the kidneys, but a certain part is held in the organism. This retention does not occur haphazardly in the tissues but is peculiar to certain cells or rather to a fairly definite cellular system.

Of the glands of external secretion the carmine is found only in the renal and hepatic epithelium but it is present in greater amounts (1) in the cells of Kupffer in the liver, (2) in the endothelium and reticular cells of the spleen and the lymph nodes, (3) in the endothelial cells of the bone marrow and (4) in the blood vessels of the medulla, adrenals and thymus.

Following the introduction into experimental medicine of various benzidine dyes by Ehrlich, vital staining became a popular method of research. Goldman using pyrrhol blue saw that in the course of digestion the vitally stained cells abounded in the intestinal coats; in the fasting animal, on the contrary, the intestinal wall was almost colorless. A female intensely colored by vital staining became decolorized when she became pregnant, the color was not eliminated but accumulated in the uterus, especially in the placenta.

Aschoff and his collaborators reviewed the status of the many cells concerned in these activities in a wide range of experiments and while it may still be doubtful just which should be properly included in the reticulo-endothelial system, he has tabulated certain mesenchymal elements according to their behavior to vital dyes:

1. Reticular cells of the spleen and lymphoid tissues.
2. Reticulo-endothelial cells of the spleen and lymphoid sinuses, bone marrow, adrenal and hypophyseal capillaries, and Kupffer cells.
3. Splenocytes.

From all this work we get this idea, that there seems to exist widespread through higher animals a well characterized cellular system definitely demonstrated by vital staining and comprised essentially of reticular and endothelial cells. This group of cells forms a vast complex which sends out cells through all parts of the organism, including the circulating blood. The morphological character of these cells has been known for a long time, the new contribution is the conception of biological unity of these cells, which if true gives us the right to speak of a reticulo-endothelial system.

Many facts which show the physiological and pathological importance of this system are accumulating. Of particular interest to us in this discussion is the part played by this system in the formation of bilirubin in the condition we call hemolytic icterus.

I will not take time to review the experiments which have seemed to prove the part played by the reticulo-endothelial system in the formation of bile pigment from the hemoglobin fraction of the red cell. McNees' work is quite conclusive in this and we no longer believe, as did Minkowski, that this change occurs in the liver alone.

Hemolytic or familial icterus, as is well known, is a disease characterized by a retention of bile pigments, splenomegaly, fragility of red blood cells and anaemia. The functional efficiency of the liver cell does not seem to be affected; there is on the contrary an abundant elimination of bile pigment, and the feces are well colored throughout the disease. All these symptoms disappear with splenectomy. Although the reason for the fragility of the red cells is not known the icterus is due to an overpro-

duction of bilirubin and this is intimately related to changes in the spleen.

This pernicious activity on the part of the splenic tissue in time cannot be compensated for by hyperplasia of the bone marrow and thus is explained the two cardinal symptoms of this disease, icterus and anaemia.

Of course, the most common type of jaundice is the obstructive type. Here the bile is dammed back in the liver. Heretofore we have thought that there is a rupture of the small bile capillaries and the bile is taken up by the lymphatics of the vascular capillaries. Today we have reason to believe that the belirubin formed by the reticulo-endothelial system is held back by the high back-pressure which prevents the entrance of the bile pigment into the excretory hepatic units, and it remains and accumulates in the blood, from whence it escapes through the capillaries to stain the tissues.

Obstruction may occur:

1. Inside the ducts:
   Gall stones.
   Carcinoma.
   Hypertrophic biliary cirrhosis.
2. Changes in the walls of the ducts:
   Cholangitis.
   Stricture.
   Primary tumors.
   Spasm.
3. Pressure on ducts:
   Pancreatic tumors.
   Liver tumors.
   Enlarged glands.
   Carcinoma of pylorus.
   Aneurysm.

And then, lastly, another type of jaundice, the toxic or infectious type. Here the factors which are responsible for the condition are both injury to the liver cells and an increased destruction of red blood cells. The damaged and impaired liver cells are important factors and we may term this type intrahepatic jaundice.

The following causes may be mentioned:

1. Weil's disease.
2. Epidemic infectious jaundice.
3. The jaundice of infectious diseases, such as yellow fever, pneumonia and septicemia.
4. Drugs: phosphorus, chloroform, arsphenamine.
5. Acute yellow atrophy of the liver.

Now when we see a patient with jaundice our first concern is to determine, "to what is this jaundice due?" and I think our first grouping, at least subconsciously, is into one of two types, "Is this a surgical or a non-surgical case?" for we are at once concerned as to the best plan of relieving, if possible, this individual of his jaundice. Too, the prompt recognition of jaundice relievable by surgery is an important factor in lessening operative risk.

It is true we will carefully evaluate every phase in his history, every symptom and sign presented in the onset and course of his disease; we will utilize every physical and laboratory aid; but without taking time to review all possible features I want to stress certain essentials to a practical working classification:

First, We want to know the reaction of the jaundice serum to the Van den Bergh reagent.

Second, The height and variations in the serum pigment curve.

Third, Amount of bile reaching the intestines.

Fourth, Presence or absence of pain, and its character when present.

By means of the Van den Bergh test it has been shown that bilirubin reacts differently with Ehrlich's diazo reagent depending on whether or not it has passed through the liver. There is enough evidence to establish the empiric fact that in the normal person and in the person with hemolytic jaundice the bilirubin in the blood serum does not give the typical color reaction when Ehrlich's reagent is added, but only after the addition of alcohol, while in jaundice due to obstruction and in that of intrahepatic origin the reaction occurs without the addition of alcohol. This at least, permits a differentiation between hemolytic and hepatic types of jaundice.

The height and variations of the icteric index aid in conditions in which

there is latent jaundice such as cholecystitis or gall stones, and it forms a standard of comparison by which it is possible to follow the progress of a patient who has jaundice. The icteric index depends on the presence of a certain number of units of bilirubin in the blood serum, the standard being a 1:10,000 solution of potassium dichromate. Normally there are present in the blood serum from four to six units; in latent jaundice from six to fifteen units, and in obvious jaundice fifteen units up to a very large number. There is no longer need for argument whether a patient is jaundiced or sallow. It can be demonstrated beyond a doubt.

The amount of bile reaching the intestines may be determined by duodenal drainage but usually the color of the stools is sufficient evidence of this.

Pain or its absence is of the greatest importance in diagnosis. It may be of two kinds, colic or an aching soreness. Pain is usually absent in jaundice of the hemolytic, intrahepatic and duct-compression types.

In cases of stone in the duct the colic is characteristic, often requiring morphine for relief. Jaundice accompanied by distention of the liver from malignancy may, in a few cases, cause severe pain, but it is of a persistent and boring character rather than colicky. Rarely, a stone causing jaundice, may be present in the common duct without pain, but in these cases the jaundice is never severe and the pigment curve shows marked variation.

The cases of painless jaundice of high degree are often the most difficult to differentiate; i.e. the differentiation between cases of intrahepatic jaundice and compression of the common duct by extrinsic tumor. Such a tumor will usually be a carcinoma of the pancreas. This tumor occludes the duct quickly completely and persistently so that persistent absence of bile from the stools or duodenal contents is presumptive evidence of carcinoma of the pancreas, tumor in the ampulla or in the duct.

Now, a word as to the management of these cases. All know the hazard which the tendency to hemorrhage imposes on the jaundiced patient who must submit to operation.

The intravenous administration of calcium (5cc. 10 per cent sol. calc. q.d. for 3d) has been shown by Walters to reduce the coagulation time in a large percentage of jaundiced cases. However, in a considerable number of cases the coagulation time is not thus reduced. In these cases transfusion of 500 cc. of blood may bring the coagulation time within normal limits. Finally, there are a few cases in which delayed clotting will persist in spite of administration of calcium and transfusion. In such cases the risk of operation will usually be greater than the risk of delay and it often happens that delayed coagulation time runs in waves, a phase of danger being followed by a phase of relative safety.

And now briefly, a word of what may be done for the relief of these cases.

1. Splenectomy has proved the only method of permanent improvement in the hemolytic types of jaundice.

2. In the infectious types our efforts will be toward removing causes and foci of infection and treating the various acute infections and drug irritations that are the etiologic factors.

3. In the obstructive types:

1. Cholecystitis with or without stones in the gall bladder alone, associated with jaundice. Here, of course, the stones are only a coincidence or a complication, not the direct cause of the jaundice. The infectious cholecystitis is the cause of a cholangitis and pancreatitis with damage and impairment of liver cells, a combination usually of obstructive and intrahepatic jaundice. Our surgical attack is, therefore, to be the gall bladder itself. In these cases the jaundice is always of mild degree and cholecystectomy is a relatively safe procedure and should be the operation of choice. We know that by infected gall bladder we mean an interstitial infection, and drainage of its lumen cannot remove the infected areas in the wall of this organ. These infections must be hematogenous in most cases and so here, as in many other conditions, foci of infection elsewhere in the body demand eradication.

2. Common duct stones: Neglected gall bladder disease is responsible for common duct involvement with its deplorable effects that make for difficult and oftentimes disastrous surgery. In all biliary tract surgery a complete operation should be done at one sitting. Secondary operations are unsatisfactory, both from technical and therapeutic standpoints. Great care should be exercised in all gall bladder operations to examine the ducts for further stones. Stone in the common duct is a complication of cholecystitis because all stones, with very few exceptions, originate in the gall bladder. For this reason, *other things being equal* the diseased gall bladder and the stone in the common duct should be removed at the same time. With this the common duct is to be drained with a T tube for three or more weeks. *However,* in the jaundice cases we are considering here, it will usually be safest to drain the gall bladder in conjunction with removal of common duct stone, and it is usually best to remove these gall bladder stones first, especially if they are small, to prevent the possibility of their being dumped into the common duct during and after the exploration of the duct. In these cases it is always better to institute temporary catheter drainage of the common duct as well as gall bladder drainage.

3. Strictures of the common duct: These are among the most difficult conditions we have to meet as a cause of jaundice. These practically all follow previous gall bladder operations and with the history in these of some technical difficulty during the operation, usually hemorrhage from the cystic artery and difficulty in controling it. The diagnosis is usually not difficult when following an operative procedure, a patient whose bile has previous to the operation entered the intestine, following the operation develops jaundice with persistently clay colored stools, and this in a patient in whom there is no likelihood of carcinoma. The majority of cases, however, are due to a clamp being placed on the wall of the duct, and do not develop contraction until some months after operation. When the jaundice does develop it is usually without any severe degree of pain. One should, therefore, be suspicious of the presence of a stricture of the common or hepatic duct when relatively painless jaundice appears a few months after a gall bladder operation, particularly if the operation has been associated with technical difficulties during its performance.

4. Pancreatic tumors causing jaundice are practically always carcinoma. In these cases the obstruction may be gotten around by a cholecysto-duodenostomy or a cholecystogastrostomy. The anastomosis of the gall bladder with the stomach is usually technically easier to carry out and the entrance of the bile into the stomach is not productive of any disturbance, the common idea that bile in the stomach is a cause of nausea and vomiting, notwithstanding. Cholecystogastrostomy shortcircuits the bile into the alimentary tract, thus relieving the biliary obstruction, the jaundice subsides and with it the persistent pruritus so annoying in such cases. If the obstruction is due to stricture or pancreatitis the patient's recovery will be permanent.

Below is given a tabulation of diagnostic data as an aid in the consideration of these cases:

Type of Jaundice	Spleen	Stools	Pain	Van den Bergh	Serum Pigment
Hemolytic	+	O.K.	O	Indirect	++
Obstruction of Ducts	O	Variable	+	direct	+
Intrahepatic	O	O.K.	O	direct	+++
Obstruction by Compression of Ducts	O	No Bile	O	direct	++++

Fatal Thrombosis Following Hypodermoclysis

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Thrombophlebitis with fatal pulmonary embolism associated with an area of cellulitis, following hypodermoclysis administered in an area where fairly large vessels are located, is a complication of sufficient significance to be reported.

CASE REPORT

Mrs. E. S., age 53, was admitted to a Kansas City hospital recently for operation because of a pathological condition of the gall bladder. A complete clinical history and physical examination record are not available. Before the operation the patient was found to have a mild diabetic condition which was easily controlled. Aside from the diabetic condition the patient was found to be apparently in good enough physical condition to withstand the operation.

Seven days later a cholecystectomy and appendectomy were done and a pathological report of the appendix and gall bladder was, "Chronic cholecystitis, cholelithiasis and chronic appendicitis."

The patient was apparently making a normal recovery until late in the afternoon of the second post operative day. At this time she had a temperature of 102.6°; a pulse rate of 142; and a respiratory rate of 38. She complained of shortness of breath and a pain in the lower right chest. The next morning she had a non-productive cough and a few fine rales were heard in the region of the right lower lobe. A diagnosis of early broncho-pneumonia was made. The patient refused fluids by mouth so on the fourth day following the operation 1000 c.c. of normal saline solution was given subcutaneously in both thighs—on the inner aspect, high up in the region of Scarpa's triangle. The fluid was given rather rapidly and was not absorbed well in the right thigh, so after the needles were removed a nurse massaged this area quite vigorously.

On the fifth post-operative day the patient was apparently well on the road to recovery. During this time, however, she complained of soreness and tenderness in the right thigh where the saline had been given and she refused to allow the nurses to bathe this part. On the fifteenth day of convalescence she was allowed to be up in a chair although the surgical incision had not completely healed and a slight amount of bile-stained fluid drainage was noted.

At four a. m. on the seventeenth post-operative day the patient vomited. At six a. m. she complained of severe cramping pains in the calf of the right leg and soreness in the right groin. She stated that her right leg and thigh felt heavy and swollen. Upon examination it was found that the entire right lower extremity was extremely swollen and the skin had a splotchy bluish discoloration and the toes were cyanotic. A "bruised area approximately 2½ inches below the groin" on the inner aspect of the right thigh was noted. It measured roughly 4x3 cm. in area and seemed to be quite indurated but not very painful. Within a short time the patient complained of pain in both sides of the chest and smothering sensations. She became very cyanotic, the respiration rapid and shallow, and the temperature subnormal. She had a fear of impending death and at seven-forty died with typical pulmonary symptoms.

AUTOPSY

Diagnosis—Edema of the right lower extremity; localized area of cellulitis in Scarpa's triangle of the right thigh; thrombophlebitis of the saphenous vein and thrombosis of the femoral and right iliac veins, the inferior vena cava and pulmonary arteries; pulmonary edema and infarction; acute and chronic bronchitis and chronic fibrinous pleurisy; draining sinus from the gall bladder incision; surgical absence of the gall bladder and appendix with extensive adhesions; acute and chronic hepatitis; acute and chronic splenitis; early chronic interstitial nephritis; and multiple fibromyoma of the uterus.

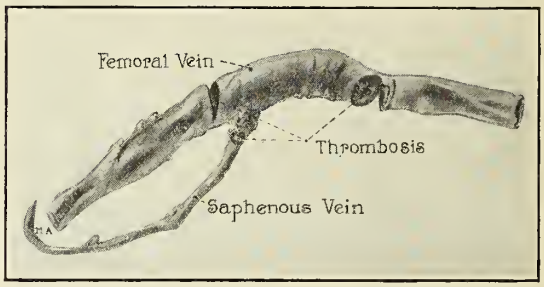
Gross inspection of the body showed a partially healed surgical incision 13 cm. in length in the right upper abdominal quadrant. At the superior end of this incision was a small sinus from which

turbid bile could be expressed. The entire right lower extremity was swollen and edematous and the skin had a patchy, bluish discoloration, particularly over the foot and ankle. Ten cm. below the inguinal ligament on the medial surface of the right thigh was noted a round, purplish, indurated area measuring 5 cm. in diameter. This had the appearance of a beginning slough or area of cellulitis.

Section through the surgical incision showed no gross evidence of infection. General inspection of the abdominal cavity revealed the omentum to be tightly adherent to the abdominal wall and liver in the region of the draining sinus from the site of the gall bladder, which was absent. The pyloric end of the stomach and the duodenum were pulled over to the right side and were adherent to the omentum, and structures about the sinus. A loop of the ileum was plastered to the stump of the recently removed appendix. Multiple subserous fibromyomata of the uterus were noted.

The heart was apparently negative. The right lung weighed 400 grams. The lower lobe presented a fresh hemorrhagic infarct measuring 12 by 7 cm. It was on the lateral and inferior surfaces. Section through this area showed a dark, red, smooth, circumscribed, hemorrhagic area, in which the alveolar architecture could not be made out. Most of the pulmonary arteries were plugged with a recently formed thrombus which was not very adherent to the vessel wall. The rest of the lung was normal except for a few fibrous adhesive tags about the apex. The left lung weighed 230 grams and showed a thrombosis of the vessels and an infarct measuring 10 by 3 cm. in the lower lobe. The liver weighed 1870 grams and showed some fatty change. The gall bladder was absent. A portion of the wall of the duodenum and the pyloric end of the stomach were adherent to the site of the gall bladder. The common duct was dilated and contained turbid bile. The tissues about it were slightly inflamed. The common duct connected with the surgical incision through a fistula. The spleen and pancreas were practically negative. The combined weight of the kidneys was 320 grams. The capsule stripped with some slight difficulty leaving a somewhat granular surface. The internal genital organs were negative except for several small fibromyomata in the uterus.

A section through the indurated and inflamed area on the medial aspect of the right thigh showed a circumscribed area of indurated tissue which extended down to the saphenous vein. This vessel



was occluded by a thrombus that could be traced into the femoral and external iliac veins on the right side. Multiple friable thrombi were also found in the inferior vena cava.

Upon microscopic examination the following findings are of interest: The lungs show typical hemorrhagic infarction with unorganized thrombi in the vessels. There is also a chronic bronchitis. The liver shows extensive diffuse leukocytic infiltration, polynuclear cells predominating. Degenerative changes are also present, fatty changes being particularly marked. The spleen shows both an acute and chronic inflammatory reaction. The kidneys show a typical chronic interstitial nephritis.

A section taken through the area of cellulitis shows a loose edematous fibrous tissue in which polymorphonuclear leukocytes are abundant. The vessels are congested and contain many polynuclear cells. The inflammatory reaction is most marked about the vessels and is seen extending down into the fatty subcutaneous tissue. A section through the femoral vein shows an unorganized thrombus consisting of masses of fibrin, leukocytes and red blood cells. No inflammatory reaction is seen in the vessel wall.

DISCUSSION

This case is an excellent illustration

of the complications that may arise from the improper administration of subcutaneous infusions. Hypodermoclysis is now a routine method of supplying the body with fluids when they cannot be taken by mouth. Most physicians carry out this procedure without any thought as to what harm might be done by improper methods, and from this case there should be learned a very important lesson. The saline was administered high up on the inner aspect of the thigh in an area where the saphenous and femoral veins might easily be injured. Besides this a large amount of saline was given in a relatively short period, and as a climax, the area received additional trauma by means of vigorous massaging that was done to hasten the absorption of the fluid. It is a well known fact that too large quantities of normal saline in a given area, given rapidly and with trauma superimposed, may cause an inflammatory reaction or slough, and the structures in that area, such as veins, are almost bound to become involved.

Practically everyone knows, if he stops to think, that to give hypodermoclysis in any region where large veins are situated, is dangerous because of trauma to these structures. Such areas are in the axillary region and high up inside the thigh (Scarpa's triangle). It is bad enough to have a slough but to have a thrombophlebitis is serious, as can be seen from this case. It is not uncommon to see subcutaneous infusions being given in these areas. Several standard texts even recommend the inner sides of the thighs as an excellent site for hypodermoclysis. Hypodermoclysis outfits are even so constructed by means of the Y-shaped tube (facilitating the use of two needles), that it is most convenient to use the inner surfaces of the thighs as a site for injection.

Experimental work and clinical observations suggest that thrombosis of the saphenous and femoral veins may occur after gall bladder operations, particularly after septic cases. In such cases this complication occurs within 2 to 5 days following operation and before the patient is out of bed. It is unlikely that such a thing could be true in this case because of the fact that the thrombus found in the saphenous and femoral veins was of not over 4 to 5 days' duration and showed no tendency to organization. The clinical symptoms of thrombophlebitis began on the seventeenth post-operative day. The thrombophlebitis of the saphenous vein being associated with a cellulitis, the result of a large quantity of saline being administered rapidly into the upper and inner aspect of the thigh with trauma superimposed, leaves little doubt as to the cause. The fact that the patient had a diabetic condition may have made the tissues more susceptible to infection and necrosis. There is no doubt but that, in view of the clinical history and autopsy findings, the patient's death followed and was probably due to improper administration of a subcutaneous saline infusion.

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Letter From a Kansas Doctor to His Son

John A. Dillon, M.D., Larned

My dear Boy:

The holidays have come and gone and you are back again at your work. It is unnecessary to say we were glad to have you boys with us again. I did not stay up at night to see you come in nor did I wait at home in the morning to see you get up. However, by glancing at the mileage on the cars and noting the rapid disappearance of my Christmas cigars, I knew that you boys were home and enjoying yourselves even if I did not see you often. Also from telephone calls I answered that came in from 10 p. m. to 2 a. m. I knew that many of your young friends were keeping in touch with you.

From time immemorial it has been the custom to humor and entertain the young folks home from college on vacation. This was true forty years ago as it is today. We had about the same line of entertainment then as now. We went to dances and shows and stayed up late as you do now except our activities did not extend to a radius of fifty miles as is the present custom. We drove to the

neighboring towns with our fast steppers and showed off just as the boys do today in their fathers' fancy cars. Nor did we fool any one as to the ownership of the fast steppers and the rubber-tired buggy. And lest you may think we lived in a slow time I may add occasionally love grew too intense and the same penalty was paid as is today.

Your mother appreciated the fact that you boys attended church with us regularly, nor did she suspect as I did that you would much rather have been out with your friends. Having been young myself once I know the attitude of the young people towards church. Whether or not we may subscribe to the orthodox religion that is dispensed from the pulpit, the fact remains the church stands for the better things of life. We call upon it to christen us, to furnish us our childish teachings for good, to marry us, and to see that we are laid to our final rest in a civilized manner. So even if it irks us at times to listen to a dull sermon; or the parables of Jonah, Lot's wife, Samson, etc., strike us as being hard to absorb, we can at least appreciate the peaceful atmosphere, listen to the music and relax for one hour in the week. Common decency and gratitude would dictate a reverent attitude at least until someone comes along with inside information on the subject. Personally, I am not quite satisfied that Russia has worked out the proper solution in doing away with all forms of worship. Anyway I am very reluctant to accept the teachings of people who have an antipathy to baths and tooth brushes. Body odors are apt to materially modify clear thinking and free love is conducive to the propogation of morons rather than geniuses.

We should not take the parables of the Bible too literally nor attempt to reconcile them to our modern scientific knowledge. We may grant that Jonah had stomach trouble and, though it was a whale's stomach, his insistence on talking to his neighbors about it probably was the foundation for the distortion—neighbors are apt to get things mixed. Even modern newspapers come out frequently with a startling statement that some one has a snake in his or her stomach. The average newspaper reporter should have no trouble in subscribing to the strictest orthodox teachings. In all probability Samson was a husky individual and could handle the neighbor boys without any trouble and no doubt needed a hair cut. The chances are Delilah had been at him for some time and he had promised to do this when he took off his woolens. He afterwards frequently mentioned what a man he was before he had his hair cut. Any doctor can recite similar experiences coming under his clinical observation almost any day. We must remember that this history was written many hundred years ago and written by human beings, who, though meaning to be reliable, were as subject to errors as are the historians of today. So let us be tolerant. Certainly no more beautiful story has been told than that of the child in the manger nor no greater teacher has lived since that time. Those who attempt to feebly follow in his footsteps are not liable to go far astray.

So my final advice would be, do not apologize to your friends for going to church and hearing a good sermon. You will find the people you meet there to be pretty fair citizens and for at least one hour you will not be in danger of being run over by an auto driven by a bareheaded college friend.

I imagine your school work up to date has not been too strenuous and the little diversions you have had since school began have broken the monotony. The all absorbing interest of rush week, the strenuous football excitement, Thanksgiving and your visit home, and now your two weeks Christmas holidays, all these are little breaks in your arduous college study that tend to prevent collapse from over-work.

We shall expect you home Washington's birthday, Easter and on other occasions when vacations are declared. It's mighty fortunate you are only 275 miles away, otherwise you might find it expensive and inconvenient to get back and forth. Understand we are always glad to have you home, but we would be more than pleased if there were not quite so

many things to distract your attention from your work.

With love,

DAD.

P. S. You might suggest to your younger brother that he send back my two new Christmas neckties which he accidentally took away.

TUBERCULOSIS ABSTRACTS

Sanocrysin (sodium-gold-thio sulphate), was announced by Mollgaard in 1924. Clinical observations of the effect of the drug, published by numerous European writers since then, have been decidedly variable. Generally speaking, favorable results have been reported of cases with the exudative type of lesion, while little clinical improvement has been noticed in cases of the chronic type. Since some of the clinical reports do not seem to justify the conclusions drawn, a group of investigators in the William H. Maybury Sanatorium in Michigan decided to make an intensive study of the effect of sanocrysin on a small, carefully selected, closely comparable group according to a prearranged plan. Results of the study were published in the October, 1931, American Review of Tuberculosis, of which the following is a brief abstract.

A TRIAL OF SANOCRYSIN

Mollgaard claimed that sanocrysin has a specifically curative effect on tuberculosis. He believed that the drug, introduced into the blood stream, permeates tuberculous lesions and there kills many, if not all of the tubercle bacilli. Exudative, not too acute, pulmonary lesions of early age, being more pervious than the fibrous type, were considered more responsive to treatment. The fever, albuminuria, eruptions, and loss of weight resulting from the treatment was attributed to the liberation of toxins from the distintergrated bacilli. To offset the ill effects, an anti-serum was developed, and this was administered at the first sign of reaction; namely, albuminuria.

Other workers used the drug, as well as various other gold compounds, in human cases. The amount of gold in these compounds varies greatly; sanocrysin contains 37.4 per cent of gold. The present consensus of opinion seems to be that the chemical is not a specific bactericide, that nevertheless favorable responses sometimes occur, and that the toxic properties of the drug compel consideration. Metallic poisoning, rather than tuberculin-like shock, seems to account for the unfaborable reactions; consequently, Mollgaard's anti-serum has been discarded by most clinicians and smaller doses of sanocrysin are given.

PLAN OF TRIAL

The treatment was explained to a group of patients of the William H. Maybury Sanatorium. The 24 patients who were finally chosen from among the volunteers were all in good general condition who would, therefore, not be likely to suffer ill effects from the drug. Most of them had benefited to some extent by the routine sanatorium treatment, but the healing of their disease was slow and incomplete. The lesions were chiefly of the exudative and mixed exudative-productive types. All were free from complications.

On the basis of clinical, *x*-ray and laboratory findings, the patients were then divided into two equal and comparable groups, cases being matched one with another as closely as possible. By a flip of the coin, Group I was designated as the sanocrysin-treated and Group II as controls. The patients themselves were not aware of any distinction in treatment.

METHOD OF OBSERVATIONS

The patients were put to bed for a month prior to starting any medication, during which time uniform data and information were collected to serve as a basis of comparison. The preliminary thirty days' study was carried out in the following manner:

1. The chest was examined biweekly particularly to determine any variation in the extent or disribution of the rales, the findings being described in the record.

2. The chest was *x*-rayed (stereoscopic) at the beginning and at the end of the month and the films preserved, special notes of any changes being recorded.

3. Careful records of the presence and clinical course of complications and

symptoms were made.

4. The sputum was weighed daily, and this figure was charted; also averaged at the end of the month.

5. The sputum was examined microscopically every two weeks to determine the presence of tubercle-bacilli. A method of sputum concentration and animal inoculation was used routinely when indicated.

6. Body weight was measured and recorded weekly.

At the end of this preliminary checking, the same routine was continued during the period of the trial, except that physical examinations were done more frequently, particularly to show the presence and behavior of perifocal reactions, and stereograms of the chest were made monthly; oftener in cases showing rapid change.

Each patient receiving sanocrysin (Group I) was started with 0.1 mg. of the drug, dissolved in 2 cc. of distilled water and injected into a cubital vein. At intervals of four days, unless contraindicated, additional injections were given, increasing by 0.1 gm. up to 0.3 gm., and then increasing to 0.5 gm. The amount of distilled water was increased to 5 cc. when the dose of sanocrysin exceeded 0.3 gm. The 0.5-gm. dose was then repeated until the course was completed. The number of injections varied from nine to fourteen, and whenever there was a suspicion of a dangerous reaction the next dose was reduced, omitted or postponed. The total amount of sanocrysin administered to single patients varied from 3.1 to 6.1 gm., while the total amount per kgm. of body weight varied from 0.6 to 0.1 gm. The patients treated as controls (Group II) each received 14 intravenous injections of distilled water (2 cc. each) at intervals of four days.

EFFECTS OF TREATMENT

The detailed effects on the tuberculous conditions are minutely described in the article. The observations include the effect on temperature, pulse, lassitude, body weight, cough, sputum, appetite, sleep, physical findings, pain in chest, hemoptysis, dyspnea. Similarly, the toxic effects referable to the drug are noted as these affected the skin, nerves (neuritis), mucous membrane, eye, gastrointestinal tract, liver, kidney, etc. Laboratory evidences were as carefully and as fully studied. The study lasted approximately six months, during the first two of which sanocrysin treatment was given. During the entire period of the trial, both groups were kept in bed.

A follow-up of patients was instituted one year after the close of the study. In finally determining the effects of the treatment, all the observations were correlated. Chief reliance was placed on such factors as changes in the *x*-ray shadows of pulmonary lesions, presence or absence of tubercle bacilli in the sputum, measurable symptoms such as temperature, and fluctuations in body weight. Changes in physical signs were not given much value. Toxic effects of the drug were distinguished as far as possible from symptoms referable to the disease itself. A summary of the results is as follows:

	Group I (Sanocrysin)	Group II (Control)
Number	12	12
Slightly improved	5	6
Much improved	1	1
Unchanged	0	3
Slightly worse	1	1
Much worse	4	
Slight toxic effect	8	
Severe toxic effect	3	
Fatal	1	

CONCLUSION

"1. This investigation proves the need and the merit of a carefully prearranged plan to be followed in a clinical test of a chemotherapeutic agent in tuberculous patients.

"2. We discovered no evidence in 12 cases, studied according to such a plan, that sanocrysin, given in small, gradually increasing doses up to a total of 6.1 gm., has a beneficial effect on pulmonary tuberculosis or its complications.

"3. Compared with 'control' cases, more of our sanocrysin-treated cases became worse. The evidence is strongly suggestive that sanocrysin was at least partly responsible for the unfavorable trend of the disease in some of these cases.

"4. Sanocrysin exerted definitely harmful systemic effects in all our treat-

ed cases, partly as a secondary result of its action on the local tuberculous lesions, but mostly, we believe, by virtue of its own inherent toxicity. These effects were usually on the nutrition, gastrointestinal function, temperature, skin, mucous membranes and kidneys.

"5. One sanocrysin-treated patient died from parenchymatous degeneration of the liver and other effects which we interpret as gold poisoning. We could not anticipate this unfortunate outcome.

"6. Because of the lack of definite evidence of benefit and because of positive evidence of harm which in some respects is long-lasting, especially in the kidneys, the use of sanocrysin, as we used it, is not justified."—*Sanocrysin in Pulm. Tuberc., J. Burns Amberson, Jr., B. T. McMahon, and Max Pinner, Am. Rev. of Tuberc., Oct.,* 1931.

MEDICAL SCHOOL NOTES

Dr. Thomas G. Orr spent November 23 and 24 at the Mayo Clinic, attending the meeting of the Visiting Surgeons Club.

The following men attended the meeting of the Western Surgical Association, December 3 and 4 at Denver, Colorado; Dr. L. F. Barney, Dr. Frank Teachenor and Dr. Thomas G. Orr. Dr. Barney read a paper on "The Treatment of Peritonitis," and Dr. Orr read a paper on "Chemical Aspect of Intestinal Obstruction." These two papers were a symposium on peritonitis and intestinal obstruction.

Dr. L. A. Calkins read a paper before the medical society of Wellington, Kansas, on December 17. The title of the paper was "Management of Third Stage of Labor."

Dr. John Aull and Dr. Frank C. Neff, attended the meeting of the Central State Pediatrics Society at Cincinnati, Ohio, recently.

Dr. Robert Keyes, '27, who has just completed a residency in orthopedics at the Presbyterian Hospital Medical Center, New York City, recently visited at Bell Memorial Hospital.

Dr. J. L. Collins, '29, is now located at the Emergency Hospital in Washington, D. C.

Dr. H. L. Dwyer, Dr. N. F. Ockerblad and Dr. Earl C. Padgett attended the meeting of the Southern Medical Association at New Orleans, Louisiana, November 18 to 20.

The following students were recently appointed to serve as interns in the Bell Memorial Hospital for the year 1932-1933: G. Freeman Helwig, Porter M. Clark, Jr., Charles C. Underwood, Jr., Clayton J. Traylor, L. Claire Hays, and Edward H. Erni.

Two books recently published which have caused very favorable comment are "The Doctor Explains" by Dr. Ralph H. Major, and "The Care and Feeding of Adults" by Dr. Logan Clendening. Both hold professorships in the Department of Medicine of the School of Medicine.

The Porter Scholarship for the year 1931-1932 was recently awarded to Harold V. Zuber. This $300.00 scholarship award is given to a fourth-year student who has the highest average class standing for the first three years.

Dean H. R. Wahl attended the annual meeting of the Association of American Medical Colleges at New Orleans on November 30, December 1 and 2.

The following seniors were recently elected to membership in Alpha Omega Alpha, honorary medical fraternity: Porter M. Clark, Jr., Leland F. Glaser, Andrew Jack Hoefer, and Roy H. Moser.

Dr. Ralph H. Major, professor of internal medicine, recently conducted an extension course in medicine at the University of Iowa.

The doctor of a country village had two children who were acknowledged by the inhabitants as being the prettiest little girls in the district.

While the two children were out walking one day, they happened to pass quite near two small boys; one lived in the village and the other was a visitor.

"I say," said the latter to his friend, "who are those little girls?"

"They are the doctor's children," replied the village boy. "He always keeps the best for himself."

✣ ✣ ✣

Annie: Come in and see our baby.

Teacher: Thank you, but I will wait until your mother is better.

Annie: You needn't be afraid. Its not catching teacher.

✣ ✣ ✣

Native: "Well, what do you think of our little city?"

Tourist: "I tell you, brother, this is the first cemetery I ever saw with lights."

THE JOURNAL
of the
Kansas Medical Society

O. P. DAVIS, M.D. - - - - Editor

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THE NEW EDITOR

After this issue, the name of a new Editor will appear at the masthead of the Journal, and the present incumbent, who was drafted, temporarily to fill the vacancy caused by the death of Dr. McVey, will retire.

Dr. Earle G. Brown, Secretary of the State Board of Health, was elected Editor of the Journal and of Folks, at the recent meeting of the Council, in Kansas City.

Dr. Brown is well known to the profession throughout the state, not only because of his connection with the State Board of Health, but because of his zealous activities in connection with medical society work. He was President of our State Society in 1927-28, and has for many years served as Secretary of the Shawnee County Medical Society. In both capacities he has distinguished himself by his intelligent grasp of the duties and problems with which he has been confronted. He possesses an engaging personality, a well controlled temper and is noted for his fine exhibition of tact under trying conditions—a quality not possessed by every one.

Dr. Brown is a comparatively young man, yet old enough to have acquired that poise and stability of judgment which only come from experience.

The writer of these lines desires to thank the readers of the Journal and of Folks for their generous patience with his efforts under sad and unaccustomed conditions, and to bespeak for the new Editor their best support and co-operation.

COUNCIL MEETING

The mid-winter meeting of the Council was held January 5, 1932, at the office of Dr. Hassig, Secretary, in Kansas City. All the members of the Council were present except Dr. O'Donnell, who was unavoidably detained. The new president, Dr. P. S. Mitchell, was inducted into office, succeeding Dr. Duncan. Dr. Mitchell, who prior to his election, was Councillor for many years, seemed to have no trouble in adjusting himself to his new role. Dr. Duncan, retiring president, remains with the Council, having been elected to succeed Dr. Mitchell on the latter's elevation.

The Council spent much time informally discussing matters of general interest to the society. The program for the approaching annual meeting in Kansas City, next May, was given considerable attention. The evening of the first day of the meeting is to be devoted wholly to the session of the House of Delegates. The local arrangements committee is to be asked to allow nothing to be planned to conflict with this. The general opinion was that not enough time and attention had been given in the recent past to the important functioning of the House of Delegates, which is the legislative and basic administrative body of the Society. The second day of the meeting will be devoted to the papers and addresses of the guest speakers as was done last year. Every effort is to

be made to get men of celebrity and distinction for the occasion.

The report of the Editor of the Journal and of Folks was received and filed.

Dr. Earle G. Brown, of Topeka, was elected Editor for the coming year to succeed the temporary incumbent, who had been appointed to succeed Dr. McVey during the time prior to this meeting.

The Council meeting was immediately followed by a short meeting of the Bureau of Public Relations, at which plans were discussed and adopted for the enlargement of the circulation of Folks, and for its further development as an important medium between the profession and the public.

The members of the Council were guests of the Wyandotte County Medical Society in the evening at the annual banquet and program for Dr. Gray, which is reported in another column.

DR. GEO. M. GRAY

The man above named is not dead. Far from it, when we saw him, just a few days ago. But why should we wait till he is dead to pay a little tribute to him? Such delays are often regrettable, when it is too late.

Dr. Gray was the recipient, on the evening of January 5, of a wonderful outpouring of appreciation, compliment and felicitation from his professional friends and neighbors, on the occasion of the annual meeting of the Wyandotte County Medical Society. We are not going to report the proceedings of the meeting under this head, but we are going to say something about Dr. Gray.

We have known Dr. Gray for twenty-five or thirty years. Of late years, the acquaintance has become more intimate. We have come to know him well enough to place a real evaluation on his character. We have always found him consistent and steadfast in principle, never playing fast and loose for the sake of expediency. He stands for high professional ideals and standards, and is always ready to take the lead in movements toward those ends. As a citizen he is always ready to take a hand in anything for the advancement of his city or community. He has been Mayor of his city, and is always actively engaged in worthy civic enterprises.

Dr. Gray has never grown old, in the real sense of the word. His spirit is fresh and forward-looking. He likes the young, and likes to have a good time with the young. He takes a keen interest in young medical men, and is a teacher in our State Medical School. All this helps to keep him young.

We do not always find ourselves in agreement with Dr. Gray. Sometimes our wills have clashed, for the moment. But we respect his judgment, his honesty and his right to his opinion. And we hope we shall be his friend to the last. Here's to you, Dr. Gray.

AMONG THE WYANDOTTES

It was our pleasure and privilege to attend the annual meeting of the Wyandotte County Medical Society on the evening of Monday, January 5, instant. This was another of a long series of such meetings which we have attended, year after year. The annual mid-winter meeting of the Council is always held on the date of this meeting, by a gracious arrangement on the part of the officers of the Wyandotte County Society and certain officers of the State Society who reside in Kansas City, so that the members of the Council may be present as guests. It is a very happy exhibition of hospitality, which we are sure is warmly appreciated by the Councillors.

We wish to testify here that the spirit of fellowship and good cheer in evidence

on these occasions is worthy of emulation by every similar society organization in Kansas.

There was, of course, lots to eat. They called it a banquet, we believe, but it lacked the usual cut-and-dried performances that usually characterize a banquet. There was one thing that abounded at this meeting and that was noise. Nearly every conceivable kind of noise making device was placed at every plate and they were put there to use. And they were used. These Wyandotte cowboys certainly leave their dignity at home, or at least outside in their fords, on occasions like these. It is a joy to see so many doctors turning themselves loose for an evening of complete, rollicking jollity. No other society can be found, we are sure, that can match Wyandotte for this. We always enjoy every minute of it. It was purely a stag affair. If Wyandotte County has any lady members, and doubtless it has, they were not in evidence. Perhaps they were away somewhere having a scream of a meeting of their own.

There wasn't an old man in the crowd. Of course there were a few whose hair was dyed white, and who were made up, facially, to show wrinkles, but all were young, in spirit, at least. The number of really young doctors Wyandotte County has is remarkable, and they know how to have a good time when they get together.

This meeting was largely a celebration of Dr. Gray's golden anniversary as a practitioner in Kansas City, and he was given a great ovation when he arose to speak. His address will be found in this issue of the Journal.

We congratulate the Wyandotte County Society on having such a fine testimonial meeting, and on having such a distinguished pioneer in its membership as Dr. Gray.

Fifty Years in Practice of Medicine

Geo. M. Gray, M.D., Kansas City, Kan.

The Wyandotte County Medical Society takes great pleasure in presenting this address given by Dr. George M. Gray, who has completed more than fifty years in the practice of medicine in Wyandotte County. This address was given at the Thirty-seventh Annual Banquet of the society held at the Chamber of Commerce, Kansas City, Kansas, January 5, 1932.

As there are no records of the society showing the early events, it is thought that this permanent record would be valued by all.

To the Members of Wyandotte County Medical Society, Mr. President and Friends:

At the request of your Society, I appear before you to give a brief history of my life and some observations based upon an active practice of medicine and surgery for over fifty years. All of this period in the practice has been spent among you in this county. My parents moved from Waukegan, Illinois, where I was born on March 4, 1856, to Wyandotte county, coming by boat, for there were no railroads or motor trucks in those days. We landed at Quindaro in the fall of 1858. Quindaro was quite an important city at that time, settled largely by people coming from the New England states and all were determined that slavery should not be extended into the territory of Kansas. We lived in a log house for one and one-half years while my father was building a house, which now stands just east and a little north of the present terminus of the street car line on 27th Street, a white two-story house of frame construction surrounded by pines and evergreens planted by my father, Rasselas M. Gray, and now has become a part of this city. My father owned and improved a small farm at this point consisting of some thirty acres, all of which was planted in fruit, principally apples. My boyhood days were spent on this farm.

EARLY EDUCATION

I attended the public school at Quindaro. The first school I attended was in the old Methodist Church in the main part of Quindaro, now a part of the Western University. The Quindaro school house was not built until 1868. This school was a stone building consisting of one room, which long ago was

torn down and a more modern and commodious building erected on the same site. When eighteen years of age, I attended school in what was known as the Central School of Wyandotte which stood in Huron Park where the Carnegie Library stands. The building now occupied by the Y.W.C.A. at 6th Street and State Avenue at that time was used for the negro children and Wyandotte had but these two schools.

While attending this school in the fall of 1875, I became ill. I remember that I continued to attend school for about one week after I began to feel sick and then went to bed for a four weeks' siege of continued fever, diagnosed at the time as malarial fever. But to my mind it was a typical case of typhoid fever with all the premonitory symptoms, fever, headache, nose bleed, loss of appetite, etc. While we did not have the Widal test at that time I am certain of my diagnosis. After my recovery from this sickness I decided, since I had lost so much time and would necessarily be behind in my classes, I would not try to continue in school but would learn the drug business. With this intention I obtained a position in the drug store of Dr. T. J. Eaton, then located at 817 Main Street, Kansas City, Missouri. This was in the days before we had manufacturing pharmacists and we were compelled to make our own preparations such as tinctures, syrups, elixirs, infusions and decoctions. We even had to make our own pills and sugar coat them as gelatine capsules had not yet been discovered. So after a year in the drug business, I became quite proficient in making the different shelf preparations, (tinctures, syrups, elixirs, etc.). At this time I decided to take up the study of medicine. Dr. Eaton, the proprietor of the drug store, held the chair of Professor of Chemistry, and Dr. Geo. Halley was Professor of Anatomy in the College of Physicians and Surgeons, Kansas City, Missouri. My decision to study medicine came about largely through their persuasion and advice. In those days a young man entering upon the study of medicine was supposed to have a preceptor. Dr. E. W. Schauffler, father of Dr. "Bob" Schauffler, Kansas City, Missouri, consented to assume this responsibility for me and in the fall of 1876 I entered his office and matriculated in the College of Physicians and Surgeons located in what was known as Vaughan's Diamond Building at the junction of 9th, Main and Delaware Streets. This school required a two years' course but on entering the study of medicine and through the advice of Dr. Schauffler and others, and the fact that I had made arrangements with Dr. Eaton to continue to make the drug preparations for his store, I decided to take a three years' course. I continued to make the shelf preparations for two years and had the keeping of drug stock as part of my duties. These duties required the forenoon of five days each week for which I received a salary of $20 per month. In March, 1879, I received the degree of M.D. from this school. Clinical facilities in Kansas City at that time were not very good. We had the City Hospital consisting of two long and narrow frame buildings one story high. These stood on the site now occupied by the General Hospital and were facing each other with a narrow open space between them. The one on the north was somewhat larger than the one on the south, its companion building. The larger one was used for white people and the somewhat smaller one for colored. St. Joseph Hospital was located about this time at 8th and Pennsylvania Streets and was a brick building with some thirty-five beds. These two hospitals had to serve the people of Kansas City, Missouri, which then had a population around 40,000. All of our teachers enjoyed taking the senior students to see their cases. I remember going with Dr. E. W. Schauffler to visit many of his private patients. The class was small and in this way received bedside instructions, which I am sure were of great value to the class members.

The summer of 1879 was spent at home with my parents. During that spring I attended the meeting of the Kansas Medical Society, which was held in Leavenworth, and I became a member. This was fifty-two years ago. I did some practice and made a trip down

through eastern Kansas, going as far south as Fort Worth, Texas, but was unable to decide on a locaten. On my way home, I decided that I would like to go to New York City and take a course at Bellevue Hospital Medical College if I could obtain my parents' consent. I returned home and made my desire known to my father and mother and obtained their consent and promise that they would try to provide the necessary money for this course. I did not fancy going alone so I thought of my friend, Dr. Charles Lester, as the one I might persuade to accompany me. I went over and told him of my plans and we talked with his father and mother and finally obtained their consent. Dr. Charles Lester's father being a physician engaged in a general practice readily became interested; but I remember that the consent of his mother was not so easily obtained but was finally arranged. Dr. T. B. Lester, Charles Lester's father, with Dr. E. W. Schauffler, divided the chair of Professor of Theory and Practice of Medicine in the school from which we had graduated in 1879. In September, 1879, we left Kansas City for New York where we matriculated in Bellevue Hospital Medical College and both of us received a degree of M.D. from that College in April, 1880. We roomed and attended classes together and I remember clearly that Dr. Lester made good use of my notes when preparing for an expected quiz. After completing my course in Bellevue I returned to my home with my mind made up to open an office in Wyandotte, which was then a town of 9,000, bounded by the Missouri and Kaw rivers on the east.

FIRST LOCATION

My first office was located at 408 Minnesota Avenue. Approximately six months later I formed a partnership with Dr. A. W. Boucher who moved here from Ohio. Office rooms were scarce here and I think that had much to do with bringing about the partnership. This arrangement lasted about three years under the name of "Boucher and Gray" and was terminated when Dr. Boucher moved to California where he practiced for a number of years. Between the Kaw river and the state line, the city of Kansas City, Kansas, was located and was quite a business center with a population somewhat smaller than Wyandotte. About 1880 Armourdale was incorporated and some years later the three cities were consolidated under the name of Kansas City, Kansas, and since then Argentine and Rosedale have become a part of our city.

ST. MARGARET'S AND BETHANY HOSPITALS OPENED

The real opportunity for physicians of Kansas City, Kansas, came in 1887 and 1892. St. Margaret's Hospital was opened in the spring of 1887 and Bethany Hospital in 1892. The opening of these two hospitals gave the physicians in this city the opportunity for hospital connection and has had much to do with accomplishments of physicians connected with these two institutions. The rivalry that has existed during these years has had a beneficial effect on the staff members. The community has not suffered but has benefited by the rivalry between these two hospitals, one striving to surpass and outdo the other in service to the sick. We should all be very proud of these two pioneer institutions and realize what they have done for the physicians connected with them.

St. Margaret's Hospital is a monument which should render imperishable the memory and name of Monsignor Anthony Kuhls, the one whose munificence founded it and gave it to this community at a time when it was so much needed. Admiration and love for the founder and pride in the growing success of the organization has always been a prominent factor in my attitude towards this institution and is to this day the major factor in keeping me in active practice after forty-four years with this institution, during all of which time I have enjoyed the greatest respect and co-operation from both the management and staff members. I hope to see the Sisters of the Poor of St. Francis, to whom the founder committed the management, go forward keeping constantly in mind his ideals, namely a refuge for the poor who are sick and without funds or friends, irrespective of creed, color or nationality.

WYANDOTTE COUNTY MEDICAL SOCIETY FORMED

Now let me tell you what I can from memory of the organization of Wyandotte County Medical Society. Prior to 1901 we had a county society and held meetings in the physicians' offices at irregular intervals. I remember that Dr. H. M. Downs was President in 1896 and Dr. J. W. May, Sr., father of our late deceased friend, Dr. "Jim" May, in 1897, Dr. J. M. Thompson, now deceased, was President in 1898, 1899 and 1900, three years in succession. Since 1901 the history is clear and no one has had the honor of re-election as President. Of those who participated in the early meetings of the County Medical Society prior to 1901 Dr. C. M. Stemen, Dr. R. C. Lowman, Dr. L. D. Mabie and myself are the only ones living so far as I know. In 1901 the Wyandotte County Medical Society was reorganized at which time our state and county societies became component units of the American Medical Association under its present plan, Dr. R. A. Roberts (deceased) being our first president. From 1901 to 1912 the membership was small and the meetings poorly attended. In 1912 when I was elected president the membership numbered only forty-two and the attendance was poor. At the annual meeting in which I was elected president there were only twelve in attendance. Upon my being elected I remember that I stated that the membership and attendance at regular meetings was not satisfactory to me and that I did not care to accept the presidency unless they would give me an active secretary who was willing to do some necessary work in securing new members and better attendance at the meetings. They asked who I wanted and I replied, "Dr. J. F. Hassig." That year your society reached a membership of one hundred and five and became the largest county society in the state. This is only an illustration of what a real live secretary can do for a medical society.

HONORS ACCORDED

True, I have had some honors come to me in these years that have passed. I have been honored with the presidency of this society and also of the Kansas Medical Society, the Kansas City Academy of Medicine, treasurer of the Kansas Medical Society since 1921, president of the old Mercantile Club now known as the Chamber of Commerce, served two or three years as county physician and a term as coroner and an unexpired term as mayor of Kansas City, Kansas.

A little more than two years ago I was the guest of honor at a banquet given by my friends and members of the faculty of the University of Kansas at the Grund Hotel. I was congratulated for having reached my fiftieth year in the practice of medicine. At this meeting I was presented with a gold watch bearing the inscription: "Presented to George M. Gray by the Medical Faculty of the University of Kansas on the anniversary of his fifty years in the practice of medicine," and dated "March 5 1929." I regret very much that I could not have had the names of all those who participated in that meeting also engraved on the watch. And it is needless for me to say that I appreciate this token very much.

For forty years I have held some teaching position in the medical schools of Kansas City, Missouri, and in this city, first with the Kansas City Medical College, formerly the College of Physicians and Surgeons from which I graduated in 1879. In that school I was demonstrator of anatomy for a number of years and also taught anatomy. I was one of the organizers of the Medical Chirurgical College which was organized in this city and afterward moved to Kansas City, Missouri. This school in 1905 with the Kansas City Medical and the College of Physicians and Surgeons of this city were taken over in the organization of the Medical Department of the University of Kansas at Rosedale, now a part of Kansas City, Kansas. I was given the teaching position as Professor of Clinical Surgery at St. Margaret's Hospital, where we have classes twice a week and which position I still hold. For the past three years this work has been principally done by Dr. L. F. Barney and Dr. C. C. Nesselrode and probably very shortly I shall eliminate myself from this position.

In my home is a token of appreciation which I received soon after the close of the World War of which I am proud. It reads as follows: "In appreciation of distinguished voluntary services rendered to the Government of the United States of America in the World War 1917 and 1918. The Kansas Council of National Defense makes grateful acknowledgement to Dr. George M. Gray in the name and in behalf of the people of the State," signed Arthur Capper, Governor of Kansas; H. J. Waters, Chairman of the Council of National Defense; Fred Voiland, Director of the Council of National Defense; Henry J. Allen, Governor of Kansas.

At this time, I am a member of the American Medical Association, the American College of Surgeons, the Western Surgical Association, the Kansas City Southwest Clinical Society, the Kansas City Academy of Medicine, the Kansas Medical Society, the Wyandotte County Medical Society and Chief of Staff of St. Margaret's Hospital, and have a great pride in all of these organizations.

ORIGIN OF KANSAS CITY, KANSAS, MUNICIPAL WATER SYSTEM

Here I will make mention of an incident that occurred about the year 1905 and in which Dr. E. J. Lutz, a member of this Society and a past president, now deceased, and I, saved the water system of this city and helped make possible municipal ownership. During the period between 1880 and 1907 the water supply was deplorable and undoubtedly was the cause of much sickness and many deaths. Typhoid fever was prevalent and we had many cases each summer and fall. So when the old Water Company asked for a renewal of its franchise proposing to furnish "Pure Potable Water," I took a great interest in it and went to Chicago at my own expense and obtained valuable information from its Health Department and other sources. I returned home and had the following clause inserted in the franchise defining pure potable water. "By pure potable water is meant, water which is clear and from which there has been a 98 per cent elimination of all bacteria as measured and determined by laboratory examination at the intake and the faucet. And that for each day the Water Company fails to supply water of this standard they shall forfeit $100.00 per day to be deducted from their bill against the city." This amended franchise passed but the Water Company refused to accept it. Later on during my term as Mayor, the Water Company again renewed its efforts to have the franchise granted and were willing to accept the clause defining "Pure Potable Water," but by this time there was quite an agitation for municipal ownership. It was pointed out by those opposed to it that we had no state law that would allow the city to take over the operating of the water plant. The legislature was in session that winter and through the efforts of the Mercantile Club and other interested citizens proper legislation was obtained making it possible for us to have our present efficient water system.

During my term as mayor Judge J. P. Angle, father of Dr. Fred Angle, was my private secretary, and received practically all of my salary for his valuable services.

REFLECTION OVER FIFTY YEARS IN MEDICINE

At the end of more than fifty years in the practice of medicine, I would say that I am not entirely satisfied with what I have accomplished as it seems to me that with the opportunities I have had I should have accomplished much more. The fifty years just past have been most wonderful and in medicine almost every discovery of importance is included. The first and most important discovery was made by Lord Lister in reference to the part played by microscopic organisms in the production of inflammation and suppuration in wounds and by Dr. Louis Pasteur as to the part played in the production of disease by micro-organisms. These two things revolutionized the practice of both medicine and surgery. Of all the wonderful discoveries in science during the past fifty years, these, to my mind, are the most outstanding and have been of the greatest benefit to mankind. Fifty years ago you had but one known prevention for disease and that was vaccination against

smallpox. Today individuals can be made safe from many diseases that formerly claimed a yearly toll of thousands. Among the preventable diseases I may mention typhoid fever, diphtheria, lockjaw and hydrophobia. I am proud to have been a member of a profession that has done so much for mankind both in the prevention and cure of disease.

I think that I was the first physician in this city to use the O'Dwyer intubating tube to relieve suffocation due to laryngeal diphtheria. Tracheotomy had been our only means of relieving this distressing condition so common; the results from it had not been satisfactory and the mortality very high. With the introduction of the O'Dwyer tube, I obtained much better results and remember that I had four children in private homes with O'Dwyer tubes in their larynges when the first anti-diphtheritic serum was obtainable in our city. I know of a number of grown persons now residing in this city whom I intubated for this condition during their childhood.

HOME LIFE

This narrative would not be complete without a mention of my marriage, which occurred in Kansas City, Missouri, on November 23, 1881, now past fifty years. Miss Caroline Harlan became my wife, and without a wedding trip we came directly to Wyandotte for I did not have any too much money and not a very large business. We have had five children born to us, two of whom died in infancy. Of the three who are living, the two daughters, Mrs. Willard J. Breidenthal and Mrs. Tom M. VanCleave, were born in a cottage, our first home, that stood where the new Court House now stands. This cottage was a present from my father and mother at the time of our marriage. Our son, George H. Gray, was born where the Soldiers and Sailors Memorial building stands. We have seven grandchildren. My wife's health is quite good and to me she looks much younger than she really is and we both enjoy life. What interests one interests the other. We are optimistic even in times such as we are now having. In fact we are in perfect accord on everything and have but one serious disagreement, and that is that Mrs. Gray does not have confidence in my ability to drive an automobile. She constantly advises me of impending disaster and perhaps has saved us from many serious wrecks as she insists but to which I do not agree.

THE REWARDS IN THE PRACTICE OF MEDICINE

Afer a man passes the fiftieth mile stone spent in the practice of medicine, what is his greatest satisfaction? It is not the wealth he may have accumulated for there are other things more satisfying. Among them is the esteem with which he is held by his fellow men and the esteem with which those in the medical profession hold him. For a physician cannot be measured by the same yard stick you would use in measuring a business man. In any other occupation in life, success in business means that the individual has accumulated wealth in the years he has been engaged in that business, but the measure of success in a physician's life of fifty years is quite different. It is my estimate that in the practice of medicine from one-sixth to one-half of the fifty years should be devoted to charity. And charity does not consist alone in giving one-sixth or one-half of your time to the treatment of the absolutely needy and destitute, who when sick apply to you for your services, but a heart and feeling for all those who may come to him for relief. I can truthfully say that in all my experience in the practice of medicine the class of citizens whom I have most admired are among those one calls the middle class, not even the well-to-do, but men who have courage. Men who though earning a small salary, or a common laborer, who can raise a family of four to ten children, feed, clothe and educate these children and at the same time acquire a home of his own, certainly are to be admired. But when sickness comes in the family he is surely put to a severe test and needs the service of a physician who can appreciate just what the man is up against and help him by making his charges such that he may be able to pay without taking the necessities of life from those dependent upon him.

THE SPECIALIST IN MEDICINE

The specialist in medicine is a develop-

ment of the last fifty years for when I entered the practice we had but one recognized specialty, that being the eye. Today there are specialists for every organ in the body and I am informed by Will Rogers, whom you all know to be truthful, that in his home town the specialists are dividing the body into left and right handed specialties. He writes that he had a friend who inquired of him who he could recommend to treat a very sore eye from which he was suffering. Rogers recommended an oculist who had a great reputation. After examining the eyes the doctor informed him that he had a very serious condition and should have immediate attention but since he was specializing in diseases of the right eye and the patient's trouble was the left eye, he would not treat him, but could refer him to a specialist who was treating diseases of the left eye. This may seem absurd to you but with the reputation Mr. Rogers has for truth and honesty, you will have to give this serious consideration. What is left for the general surgeon after the specialists have taken the different parts and organs of the human body? Not much I am sure. The physicians of fifty years ago it seems to me were in closer cooperation with their patients and were disposed to let the patient name the price he could pay for his services. But in recent years there has been a change and a tendency to commercialize which is regrettable if carried too far. And in periods such as we have been passing through since the world war, the commercial aspect in medicine has been crowding out the humane principle, to the detriment of the profession as a whole.

FRIENDS

As age creeps on, friends become the most valued asset of all earthly possessions, especially the physicians—and friends usually are made early in life and acquaintances late in life. Mrs. Gray has a framed motto hung in our sleeping room and I shall close this narrative by quoting it:

"Let me live in a house by the side of the road
Where the race of men go by.
The men who are good and the men who are bad,
As good and as bad as I.
I would not sit in the scorner's seat
Or hurl the cynic's ban.
Let me live in a house by the side of the road
And be a friend to man."

DO YOU KNOW?

Earle G. Brown, M.D.
Secretary, Kansas State Board of Health

That in 433 families, there were reported 452 cases of poliomyelitis in 1930?

That in the 433 families, there were 1,007 adults and 1,194 children under sixteen?

That multiple cases were reported in nineteen of the families?

That the estimated 1931 typhoid fever cases and death rates per 100,000 population are 13.2 and 1.9, respectively?

That from 1905 to 1918 inclusive, the typhoid fever death rate ranged between 11.7 and 26.6; since 1918, the high was 8.6 and the low, 2.3, exclusive of 1931?

That for the period 1905-1922, the annual average of typhoid fever cases and deaths was 1,567 and 300, respectively; for the period 1923-1930, 544 and 74?

That in 223 fatal cases of appendicitis, home treatment of catharsis was used in more than forty-five per cent of cases before the physician was called?

That more than fifty per cent of the cases gave a history of having had a previous attack of appendicitis?

That physicians expressed the opinion that seventy per cent of these deaths could have been prevented through operation at the onset of the attack?

That for both sexes, approximately twenty per cent of tuberculosis deaths occur in the age group twenty to twenty-nine years?

That less than twenty per cent of deaths from tuberculosis in males occur in the age group twenty to twenty-nine years, as compared with more than thirty-two per cent of female deaths in this same age group?

That one-third of the infant deaths occur within twenty-four hours after birth?

That eighty-five per cent of infant deaths occur before they are six months of age?

That less than fifteen per cent of persons who died of organic heart disease had reached the age of fifty years?

That in 164 maternal deaths in which special reports are available, approximately forty per cent were not under the care of a physician at any time during the pregnancy?

That physicians stated in their opinion at least forty-five per cent of the maternal deaths could have been prevented through proper medical supervision during pregnancy?

That several board of county commissioners in the past four months have employed the physicians in their county to immunize the children against diphtheria?

That according to the National Society for the Prevention of Blindness almost one-tenth of all blindness in institutions is due to accidents in childhood?

SOCIETIES

CLAY COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Clay County Medical Society was held on the evening of the ninth of December, 1931, at the Clay Center Country Club. A seven o'clock dinner was served at the club house to the society members, their wives and visitors.

Following the dinner, the meeting was called to order by the president. The minutes of the preceding meeting were read, corrected, and approved.

The applications for membership of Dr. Henry D. Smith, Washington, Kansas, and Dr. Warren T. Creviston, Olsburg, Kansas, were read and presented for ballot. Both doctors were unanimously elected to membership in the society.

The December meeting, being the annual meeting, the annual reports of the secretary and treasurer were presented and on motion were approved and placed on file.

The society then proceeded with the election of officers with the following results: Dr. W. A. Carr, Junction City, was elected president, succeeding Dr. C. C. Stillman, Morganville. Dr. E. C. Morgan, Clay Center, was elected vice president, succeeding Dr. W. R. Morton, Green. Dr. J. Leonard Dixon, Clay Center, was elected secretary-treasurer, succeeding Dr. F. R. Croson, Clay Center. Dr. W. R. Morton, Green, was re-elected to the board of censors. Dr. F. R. Croson, Clay Center, was elected delegate to the state convention in Kansas City, Kansas, in May, 1932.

Following the business session, Dr. Harold P. Kuhn and Dr. Ferdinand Helwig were presented to the society as the guest speakers of the evening. Dr. Kuhn gave the histories, and described the clinical course of a number of interesting cases which had recently come under his observation, and Dr. Helwig presented the pathological specimens and discussed the pathology of these cases. The presentation was in a very informal way and was interesting, instructive and at times entertaining.

Twelve members and five visitors were present, together with nine ladies. The visitors were Dr. Harold P. Kuhn and Dr. Ferdinand Helwig of Kansas City, Missouri, the guest speakers of the evening, Dr. J. D. Colt, Sr., and Dr. J. D. Colt, Jr., of Manhattan, and Dr. Stedman of Junction City, Kan.

On motion the meeting adjourned at 9:58 p. m.

J. Leonard Dixon, M.D., Secy.

FORD COUNTY MEDICAL SOCIETY

The December meeting of the Ford County Medical Society was held in the Jade room of the Lora-Locke Hotel, Dodge City, Kansas, Friday, December 11, 1931.

Dinner was served at 7:00 p. m. by the society, with the following present: Visitors: Drs. L. C. Bishop, Wichita; Wm. F. Fee, Meade; C. E. Phillips, Liberal; C. D. Updegraff, Greensburg; J. C. McGill, Dodge City, and Rev. W. B. Stevens, Dodge City. Members: Drs. C. E. Bandy, C. H. Briggs, F. M. Coffman, H. O. Closson, R. J. Drake, C. L. Hooper, J. G. Janney, A. C. Johnson, R. G. Klein, C. E. McCarty, N. E. Mel-

encamp, W. F. Pine, R. D. Russell, J. W. Spearing, G. O. Spiers, and W. Errol Wilson.

Dr. Bishop made a very interesting and instructive talk on Hysteria.

The following officers for 1932 were elected: President, Dr. J. G. Janney; first vice president, Dr. R. G. Klein; second vice president, Dr. Jos. W. Spearing; secretary-treasurer, Dr. W. F. Pine.

W. F. Pine, M.D., Secretary.

HARVEY COUNTY MEDICAL SOCIETY

The regular meeting of the Harvey County Medical Society was held December 7, 1931, at the Hotel Ripley, Newton, Kansas, with thirty physicians present. The annual election was held with the following results: President, Dr. E. L. Peckenschneider, Halstead, Kansas; vice president, Dr. J. A. Wheeler, Newton, Kansas; secretary-treasurer, Dr. F. G. Bartel, Newton, Kansas; delegates, Dr. A. G. Isaac, Goessel, Kansas, and Dr. J. H. Enns, Newton, Kansas.

The following program was carried out: Septicemia, case report, by Dr. L. E. Peckenschneider, Halstead, Kansas. Pre-operative Treatment of the Prostate, case report, by Dr. V. L. Pauley, Halstead, Kansas. Both of these papers were well discussed by other members present.

The programs for the monthly meetings for 1932 have been completed and are ready for publication.

F. G. Bartel, M.D., Sec-Treas.

LEAVENWORTH COUNTY MEDICAL SOCIETY

On December 7, 1931, at 7:30 p. m., Leavenworth County Medical Society met in the Risdon-Sterett office and elected the following officers for the year 1932: Dr. A. L. Suwalsky, president; Dr. Joseph Skaggs, vice president; Dr. Leon Matassarin, secretary-treasurer; censors, Drs. F. J. Haas, Chas. McGee, and C. E. Brown.

Meeting adjourned to meet the first Monday in January, 1932.

Leon Matassarin, M.D., Secy.

SALINE COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Saline County Medical Society was held on the evening of December 10, 1931, at the Hotel Lamer where dinner was served to all members present in the main dining room at 6:30 p. m.

After the dinner the members proceeded to Mr. Lamer's suite of rooms on the second floor, where the meeting was called to order by the president, Dr. W. R. Dillingham.

The minutes of the preceding meeting were read and approved. This being the annual meeting the first order of business was the election of officers:

Dr. Earl Vermillion was elected president, Dr. E. G. Padfield, vice president. Dr. L. O. Nordstrom was re-elected secretary and Dr. H. E. Neptune was re-elected treasurer. Dr. J. A. Simpson was elected as a member of the board of censors for a period of three years. Drs. W. R. Dillingham and S. T. Blades were chosen as delegates to the next state medical meeting.

The treasurer's report was read and approved, and all members were very much elated over the substantial balance in the treasury.

The secretary's report of the activities during the year was read, and a motion was made and carried that this report be spread on the minutes and a copy be sent to our state Journal for publication.

A committee composed of Drs. H. N. Moses and O. D. Walker was appointed to draft resolutions expressing our sympathy to the family of our late member Dr. E. W. Hawthorne deceased.

Dr. Dillingham, the retiring president, made a short talk and very graciously emphasized the desirability of remembering and paying tribute to our older members while they are still active and among us, and not wait until the call for flowers to decorate their caskets. The sentiments of Dr. Dillingham received a most cordial response, and all present seemed to feel that there never was a time in the history of our society when there was more harmony and greater interest in the general welfare of our society than at the present time.

The retiring president gave a talk on "The Treatment of Normal Breech Presentation," which was illustrated by mo-

tion pictures which he had procured at his own expense, and offered to the society in recognition of the honor conferred upon him, and as a token of appreciation for the splendid fellowship and co-operation during his term of office.

A summary of the secretary's report is as follows: The Saline County Medical Society has held seven regular meetings and one joint meeting with the Golden Belt Medical Society during the year, with an average attendance of twenty-one plus for the county meeting Number of visiting doctors in attendance seventeen. Number of members thirty.

The following subjects have been discussed: Blood transfusion, Dr. John M. Porter of Concordia; Bone Transplantation, Dr. W. E. Mowery of Salina; Frontal Sinus Infection, Dr. C. D. Armstrong, Salina; Urology in Children presented by Dr. Clinton Smith, Kansas City; Spastic Constipation, Dr. Earl Vermillion, Salina; Endocarditis, Dr. K. L. Druett, Salina; Laparotrachelotomy, Dr. L. S. Nelson, Salina; Allergy as related to the General Practice of Medicine, Dr. W. W. Duke, Kansas City; Irregular Heart, Dr. Fred McEwen, Wichita; Peptic Ulcer, Dr. H. N. Tihen, Wichita; Gall Bladder and Liver Infections Symposium, Drs. E. M. Sutton, Earl Vermillion, Leo Schaefer, L. S. Nelson, C. M. Fitzpatrick, O. R. Brittain, S. T. Blades, J. W. Neptune and K. L. Druett, all of Salina; Some Observations Made in Europe, Dr. O. D. Walker, Salina, and Treatment of Normal Breech Presentation, Dr. W. R. Dillingham, Salina.

L. O. Nordstrom, M.D., Secy.

ANDERSON COUNTY MEDICAL SOCIETY

The Anderson County Medical Society held a meeting at the Fourth Avenue Hotel, Tuesday evening, December 22, 1931. Allen and Franklin County Societies had been invited to meet with us on this occasion and quite a number responded to the invitation. After dinner, which was served at the hotel at 7 p. m., the following program was given:

Dr. T. A. Hood, president of Anderson County Society, introduced Dr. Robert McE. Schauffler of Kansas City, Mo., who chose for the subject of his address, "Osteomyelitis." He handled his subject in a manner which showed he understood it thoroughly and very close attention was given to his address by everyone present.

Dr. Hood next introduced Dr. P. S. Mitchell of Iola, president-elect of the Kansas Medical Society, who gave a talk on the "Interest and Unity of the Members of Every County Medical Society." This was followed with a talk by Dr. J. M. McWharf of Ottawa, who has passed his 90th birthday. Dr. McWharf's talk was along the line of the past and future of medicine, which was well received by the members.

The invitation had been extended to the wives of the members of the three societies and quite a number of the ladies were present and enjoyed the meeting.

J. A. Milligan, M.D., Secretary.

BOOKS

Conquering Arthritis, by H. M. Margolis, M.D., Pittsburgh, Pennsylvania. Cloth, octavo, 192 pages. The Macmillan Co., New York, 1931.

The author has felt that information relative to his disease should be given to the arthritic patient, and has undertaken to do so in this book. It is intended that the co-operation between physician and patient so necessary in this disease, where so many discouragements occur, shall be thus obtained.

Surgical Clinics of North America (Philadelphia Number—December, 1931. Issued serially, one number every month.) Volume II, No. 6, 309 pages, with 87 illustrations. Per clinic year, paper, $12.00; cloth, $16.00 net. Philadelphia and London: W. B. Saunders Co., 1931.

This Philadelphia Number of this series will be found to contain many articles of widely diversified interest. Illustrative cases of a wide range of medical and surgical subjects are thoroughly worked out and presented by a list of well-known and authoritative clinicians.

The Human Voice, Its Care and Development, by Leon Felderman, M.D., Philadelphia, cloth, small octavo, 301 pages. Henry Holt and Co., New York, 1931, price $2.50.

This book by a Philadeliphia laryngologist, is a very helpful treatise on the

various phases of voice production. It is very easily understood by any intelligent reader, and to those who use their voices professionally will be found invaluable. It is illustrated by diagrams, to show the mechanics of voice production and the effects of various diseases on the voice. Although of great interest to the profession, it will also have a special appeal to the lay public.

ABSTRACTS

William C. Menninger, M.D., Topeka

Davison of New York reports a study of 19 cases of pernicious anemia complicated by subacute combined degeneration which he studied histopathologically. Nine of these cases had received liver treatment and in only two of these had there been any apparent improvement in the neurological signs and symptoms. Histopathologically all of the treated patients showed progressive glial changes (gliosis). These changes were not observed in the untreated patients with subacute combined degeneration. The myelin sheath and axis cylinders were not influenced by the liver therapy. (Davison, C.: Subacute Combined Degeneration of the Cord: changes following Liver Therapy; a Histopathologic Study. Arch. Neurol. & Psychiat. 26:1195-1219, Dec. 1931.)

Calcium Metabolism and Behavior Disorders: Walter Timme reports the study of a series of cases of adolescence which were characterized by fatigue, slowness of growth and conduct disorders. In all of the cases the most consistent finding was a lowered blood calcium, in every case reported below 7.0 mg. per 100 cc. of whole blood. Many of the cases showed calcium deposits in the skull, some in the choroid plexuses and in several the pineal gland was calcified. The outstanding difficulty in every case was the behavior disorder. Since the Collip parathormone preparation has been available it has been used extensively and the outcome of treatment so far has been very favorable, far beyond the expectations of the experimenters. The basic disturbance seemed to be a lack of calcium utilization due to parathyroid deficiency and the treatment is of marked usefulness with many cases going to an apparent cure. (Timmie, W.: Some Clinical Aspects of a Diminished Calcium Utilization. Endocrinology 15: 442-448, Sept.-Oct. 1931.)

Tachycardia and its Treatment: Luten regards simple tachycardia in many instances as merely an adjustment of the circulation to pathological processes. It is not believed it should receive special therapeutic consideration except in directing the search for the cause of the tachycardia. He believes that tachycardia may cause damage to the heart if prolonged but that this conception has received an emphasis which is unwarranted. Even a diseased heart usually appears to suffer little impairment of function from tachycardia providing the muscle is stimulated from the normal pacemaker. Not only is it inadvisable in many instances to slow the rate in simple tachycardia but in adults it is rarely possible by therapeutic means to do so. Digitalis is contraindicated since it practically never produces any slowing. A carefully taken history is often of more importance to be taken on the part of the physician than a complete cardiac examination. (Luten, D.: Cardiology and the General Practitioner. Minn. Med. 14: 879-883, Oct. 1931.)

Status of Agranulocytic Angina: Taussig and Schnoebelen summarize our present knowledge of agranulocytosis. They summarize the information of 334 authenticated cases reported in the literature which in general justifies the conclusion that the agranulocytic blood picture is the cause and not the result of the angina. Of the methods of treatment at present in use these authors believe the most promising appears to be the irradiation of the long bones by means of minimal doses of *x*-rays. (Taussig, A. E. & Schnoebelen, P. C.: Roentgen Treatment of Agranulocytosis. J.A.M.A. 97:1757-1761, Dec. 12, 1931.)

Allergic Epilepsy: Levin reports a child of three years of age who presented typical epileptiform seizures apparently due to cheese sensitization. He reports in

detail the history, examination and course of the case in which the child developed epileptiform attacks on each occasion that she ate cheese and remained free from them in the intervals. The association of allergy and epilepsy was first recorded in 1919 by French writers and since that time quite a large number of cases have apparently been shown to be associated with allergy of some form, for the most part food. Levin very briefly reviews the more important contributions to the literature in this field. (Levin, S. J., J.A.M.A. 97:1624, Nov. 28, 1931.)

DEATHS

Max Mayo Miller, Arkansas City, aged 41, died November 6, 1931, of heart disease. He graduated from Northwestern University Medical School, Chicago, in 1918. He was on the staff of the Mercy Hospital. He was a member of the Society.

Edward W. Hawthorne, Gypsum, aged 77, died November 17, 1931, of myocarditis. He graduated from the University Medical College of Kansas City, Mo., in 1894. He was a member of the Society.

Elbert D. Beckner, Hoxie, aged 53, died October 20, 1931, of cerebral hemorrhage. He graduated from the University of Nashville (Tenn.) Medical Department in 1906. He was not a member of the Society.

Samuel Jennings Guy, Winfield, aged 76, died October 31, 1931. He graduated from Rush Medical College, Chicago, in 1881. He was a member of the Society.

Kansas Medical Auxiliary

Mrs. J. Theron Hunter, Topeka

The passing of Doctor C. B. Van Horn has left a great void in the hearts of those who knew and loved him. Mrs. Van Horn, his widow and our state president, will be taking up her work again shortly and will lend her splendid mind and strength toward making the remainder of the year and the May meeting in Kansas City, a success. To Mrs. Van Horn we extend our sincere condolences and we know each auxiliary member will, in every way, co-operate with her.

Greetings, this New Year; and the best wishes from this column for much happiness and success in the ventures of you and yours.

Now that we have started a clean calendar, we hope to have many and sundry bits of interesting news for our readers. The National Auxiliary sends some splendid items each month, and these will be reprinted for you. However we want to have some news of our very own to publish.

Some time ago a request was made through this column, for all auxiliary members to look over any records they may have and to report any news or activities of interest, either past or present. In this way we hoped to have an interchange of ideas that would be not only interesting and refreshing, but helpful to the various groups. Now we are again asking the members to co-operate in this attempt, by sending some news to Mrs. J. Theron Hunter, 1231 Clay street, Topeka, Kansas. Tell us something you have done—some practical experiments you have made or heard of, some means of interesting people in the auxiliary. We are sure it would be most helpful.

Have you been getting that interesting little magazine "Folks?" If you have not, and no one has had the foresight to have it sent to you as a Christmas gift, you will feel amply repaid if you subscribe for it yourself, its purchase price is very nominal, fifty cents a year, and you may have it by writing to: Folks, 700 Kansas avenue, Topeka, Kansas.

There are many auxiliary women who are enthusiastic about Hygeia. There are some who are indifferent. What, would you say is the occasion for this difference in attitude?

It would be a safe wager that the indifferent auxiliary woman is one who does not see and read Hygeia. Familiarity in this case is a cure for indifference.

Did you know the Hygeia subscriptions through auxiliary efforts are 50 per cent more now than they were at this time last year?

Did you contribute to this increase? If

so, congratulations to your ward. Keep up the good work. If you did not so contribute, join the army now of those who read Hygeia and want to spread its gospel.

From the office of our national president, Mrs. A. B. McGlothlan, 821 N. 24th street, St. Joseph, Missouri, or from the National Hygeia chairman, Mrs. Rogers N. Herbert, 1509 Stratton avenue, Nashville, Tennessee, you may secure any one of the following auxiliary productions:

Hygeia Talks and Suggestions for their use,

(a) Hygeia, a Help for Teachers

(b) Hygeia, a Help for Mothers

(c) How the Nurse Can Use Hygeia

(d) Hygeia for Leaders of Teen-Age Girls

(e) Why the Doctor is interested in Hygeia.

We should be puffed up with pride that these incomparable talks and the equally incomparable "Health Education Envelopes" have been produced by our own auxiliary women.

One of the approved uses to which your community's share in the funds from the Tuberculosis Christmas seal stamps may be applied, is the placing of Hygeia in the public schools.

To extend Hygeia is the one request that has come to us from the American Medical Association. Here is a goal and one of the many ways to that goal.

The new president, Mrs. C. R. Phillips, of the Pennsylvania Auxiliary makes a fine appeal for co-operation and brings to mind this good-for-us-all quotation:

"Think not that a leader can alone achieve,
She needs the help of others who believe the cause is just.
It matters not where praises are bestowed;
It matters much that others share the load,
Women who gladly give their strength and hours,
Who sacrifice themselves and all their powers."

Last summer's philanthropic work of the Dauphin County, Pennsylvania Auxiliary was outstanding. You would say that its Welfare Committee took no vacation; for during the 12 weeks of the Christmas Seal Camp, provided by the Tuberculosis Society for 66 children, this committee took care of the sewing and mending for those children, provided all the jellies and six dozen cakes weekly, and several treats of ice cream and candy; provided 50 pairs of blunt scissors for the children's use; donated a bookcase for the recreation hall, and arranged weekly entertainments for the children. This was certainly very fine auxiliary care for tuberculous children.

New Orleans entertained this November the Southern Medical Association and its Auxiliary. In May that city will be host to the State Medical Society and Auxiliary, and to the American Medical Association and its Auxiliary. Thus is the tradition of southern hospitality maintained and justified.

Mrs. A. B. McGlothlan, in October, made an eighteen days trip through the western and northwestern states following an itinerary mapped out by the national chairman of organization, Mrs. James Blake, first vice president. Discovery of fine work in many states and giving inspiration to more everywhere were incidents of this tour. For example, in Colorado the Education Envelopes of the Auxiliary are provided for the State University Extension Service, and the State Traveling Library Service, and for all auxiliary county chairmen.

Mrs. McGlothlan found enthusiasm and good work in Oregon and the heartiest co-operation from the State Medical Association. The state meetings were held in Eugene, Oregon, and the State Parent-Teacher Association was holding its convention at the same time in the same city. Mrs. McGlothlan was invited to speak before the latter organization. She did this with fine reaction from that Parent-Teacher meeting. Not only was she the principal speaker at the State Auxiliary Convention, but was asked to speak to the State Medical Association on two different occasions.

Excellent public relations activities and philanthropic work are reported from the Mississippi auxiliary. A contribution of $2,500 by the auxiliary to the preventorium fund for the sanitarium indicates an efficient financial chairman.

The auxiliary in Georgia has been inspired this year by an impressive address "Why Have An Auxiliary," given

in Savannah July 29 by Mrs. S. T. R. Revell, President-elect of the State Auxiliary. "If the object, person, or organization is worthy, then give auxiliary service." Mrs. Revell pays deserved tribute to the Georgia Medical profession in general and to certain of its immortals in particular. This fine address was printed in the Georgia State Medical Journal and has been incorporated in the programs of the various district meetings of the state.

Note the following article which appeared in the editorial department (not auxiliary) of Colorado Medicine for November. It is addressed as you see to the members of the Colorado State Medical Society.

"TAKE THIS JOURNAL HOME TO YOUR WIFE

"It is a frequent comment among the members of our Woman's Auxiliary that they 'never see a Colorado Medicine.' Some of the members of this Society may not have noticed that this journal carries a section for the physicians' wives.

"In it are to be found articles upon national as well as local auxiliary affairs. They are worthy of the attention of the doctors—and most certainly of their wives.

"We are depending upon the support of the wives of the physicians throughout the country to augment our efforts in educating the public in preventive medicine, the health examination, and the proper direction of health legislation. They are capable of inspiring confidence where we may fail; they may convey messages to lay organizations which our ethics and humility, unfortunately, preclude. It is for our profession that they have organized and are working. Their value to our cause is unlimited; it will be largely in proportion to the aid and encouragement they receive at the hands of their physician husbands. It is known that a number of physicians are unsympathetic with the auxiliary and its work. May they allow themselves to recognize the potentialities of this organization and endeavor better to inform themselves of its capabilities.

"It is hoped that each issue of Colorado Medicine will be placed in the hands of the wives of our society members before each month has passed. There is material in the auxiliary's section which will be of interest; there will be reading matter in the other sections which will further enhance their understanding of the work of the profession."

Before our national president, Mrs. McGlothlan, went to Kentucky in September she had been asked to address, not only the Woman's Auxiliary, but the Convention of the Kentucky State Medical Association as well. Her address, "Public Health Education," we find printed in full in the November Kentucky Medical Journal along with the address to the same Association by its own national president, Dr. E. Starr Judd, of Rochester, Minnesota.

Here is an item from the Georgia Auxiliary notes that deserves the consideration of auxiliaries in every state, because they too, if they desire, may be similarly favored:

"The Metropolitan Life Insurance Company has offered the State Chairman of Health Education, Mrs. Bonar White, 12 sets of film strips, free of charge, for use in the 12 districts. They can be shown on such machines as—the Spencer Len Delmeascope, Bausch and Lomb, or Brace and S. V. E. Pictorial."

It is hoped that county auxiliaries will avail themselves of this opportunity for health education and disease prevention. Among the 12 subjects are "No More Diphtheria," "How to Live Long," and "Lives of Health Heroes," all especially suited for high school as well as adult audiences.

From South Carolina comes the following report of worthwhile interests: We have thirteen auxiliaries and hope our membership will be 200 by spring. All our women are interested in the Student Loan Fund. Hygeia is being promoted for schools and free libraries. Some auxiliaries sponsor free milk stations. Prizes are provided for Nurses' Training Classes in three hospitals. The functioning of the Courtesy Chairman is deeply appreciated. The increased kindly and get-together atmosphere is most encouraging and helpful.

Those who know our national president personally can well understand the enthusiasm of this paragraph in the Oregon Auxiliary News:

"Friday morning, October 23, Mrs. McGlothlan addressed the annual session of the Woman's Auxiliary to the Oregon State Medical Society. It is impossible to convey the inspiration and assurance which Mrs. McGlothlan brought to those members who were privileged to hear her; but it is planned that an early issue of the Oregon Medical Bulletin will contain a copy of her address so that all may share in her message to Oregon members."

At the Oregon Auxiliary "Stunt Dinner" a prize was given for the best auxiliary slogan. The award went to "Doctors' Lives need Doctors' Wives." Can you improve on that?

The auxiliary maintained a booth at the Annual Convention of the Oregon Congress of Parents and Teachers. Thus was health literature distributed and the circulation of Hygeia promoted.

The following is found in the Oregon items and may be of service elsewhere.

HOW DO YOU DO?
Some pay their dues when due.
Some when overdue
Some never do
How do you do?

In Nebraska a project for the year is the study of state laws on sanitation, quarantine and school inspection.

℞

Mead's 10 D Cod Liver Oil Is Made From Newfoundland Oil

Professors Drummond and Hilditch have recently confirmed that for high vitamins A and D potency, Newfoundland cod liver oil is markedly superior to Norwegian, Scottish and Icelandic Oils. They have also shown that vitamin A suffers considerable deterioration when stored in white glass bottles.

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℞

Sacral Block Anesthesia in Perineal Prostatectomy; Its Infallibility When Accurately Administered

Edwin Davis, Omaha (J.A.M.A., Dec. 12, 1931), states that the more or less general impression that sacral block anesthesia (in prostatectomy) is not wholly reliable and dependable, and that there is a certain small but inevitable percentage of failure, is erroneous. This mistaken idea may be explained in part by a confusion between the simple caudal injection and the complete sacral block, and, in part, by inaccuracy in technic, without recourse to theories with respect to anatomic and physiologic variation. Sacral block anesthesia, accurately administered and with the needles unquestionably in the foramina, is uniformly and invariably dependable for perineal prostatectomy. This statement is based on the fact that it has been possible to run an as yet uninterrupted series of 229 consecutive cases of perineal prostatectomy, without the necessity for additional anesthesia in a single instance, and without drug narcosis other than one-fourth grain of morphine. The sacral block method is applicable in all cases of prostatectomy. It has not been necessary to exclude a single case on account of fear or nervousness or mental excitability on the part of the patient. Sacral block anesthesia carries with it no hazard which is inherent in the anesthesia itself, provided the most elementary form of caution (aspiration before injection) be employed, in avoiding puncture of the dural sac or blood vessels. The average time necessary for injecting the caudal canal and the three sacral foramina on each side (seven in all) is twelve and a half minutes. The method of anesthesia which may be made invariably dependable, which has no inherent anesthesia hazard and no complica-

tions or sequelae, which is simple in its technical application and is not time consuming should be the method of choice. In the author's experience, sacral block anesthesia has been a material factor in maintaining a mortality rate as low as 2.38 per cent (nine deaths) in a consecutive series including 378 cases of perineal prostatectomy. He therefore considers this form of anesthesia as the ideal method for perineal prostatectomy.

℞

Effects of Spinal Anesthetics on Spinal Cord and its Membranes

Loyal Davis, Hale Haven, J. H. Givens and John Emmett, Chicago (J.A.M.A., Dec. 12, 1931), emphasize the fact that the spinal anesthetic solutions in common use today are hemolytic as well as myelolytic and would seem to act on the myelin of the nerve fibers as they do on the lipoids of the red blood cell membrane causing its dissolution. After the injection of the spinal anesthetics in most prevalent use today into the spinal dural sacs of dogs, they have observed the following changes: (1) a varying degree of inflammatory reaction in the leptomeninges; (2) passive changes in the ganglion cells of the gray matter of the cord similar to those seen in retrograde or so-called wallerian degeneration; (3) swelling and fragmentation of the axis cylinders; (4) signs of degenerative changes in the fiber tracts of the cord. The fact that the last three of these changes were not pronounced in the cords of animals which were allowed to live ninety days speaks against their permanent nature. This is also suggested by the incomplete picture of degeneration in the ganglion cells and the absence of Marchi evidence of degeneration in the cervical and dorsal segments. However, the inflammatory changes in the leptomeninges were so constantly present that they cannot be overlooked. The authors hope to extend their studies to the spinal cords of human beings and to incorporate their results with those clinical observations which have been made in a careful neurologic examination of patients who have been operated on under spinal anesthesia. In many instances neurologic complications have been present for as long as a year after the injection of the spinal anesthetic.

℞

Roentgen Treatment of Agranulocytosis

Albert E. Taussig and Paul C. Schnoebelen, St. Louis (J.A.M.A., Dec., 1931), call attention to the fact that cases of agranulocytosis are being observed with increasing frequency, so that it may be said to have ceased to be a rare disease. The symptom complex of agranulocytosis has been circumscribed somewhat arbitrarily. While it is convenient to distinguish it from the bone marrow depression observed in benzene poisoning, in the course of antisyphilitic treatment and in the aleukemic stage of lymphatic leukemia, borderline cases are not infrequent, in which proper classification is difficult. Two of four cases reported by the authors show clearly that the fall in the granulocytic blood count may precede the appearance of a sore throat. A study of the literature reveals numerous similar observations and justifies the conclusion that the agranulocytic blood picture is the cause and not the result of the angina. Agranulocytosis occurs about twice as frequently in women as in men; the mortality in the two sexes is about the same. Of the methods of treatment at present in use, the most promising appears to be the irradiation of the long bones by means of minimal doses of *x*-rays. Transfusions are also apparently useful.

℞

Grippal Infections: Postfebrile Cardiovascular Disturbances, Usually Unrecognized

In the opinion of Clarence L. Andrews, Atlantic City, N. J. (J.A.M.A., Dec. 12, 1931), grip is regarded by many physicians as a systemic cold, and patients are allowed to get up much too soon. Unless outspoken murmurs are present, heart enlargement is demonstrable, edema persists, or changes in the electrocardiogram are found, the heart is pronounced normal. Myocardial weakness is the most common of heart defects and organic leaks of the valves are the most rare. Even the mild forms of grip offer potential possibilities of myocardial disease

and show evidences of lingering infection in the body tissues. The most effective treatment that the author has found consists of rest and tonic doses of digialis and nux vomica (not with the idea of digitalization) to tone up the heart muscle and vasomotor system.

℞

Pituitary Therapy of Alopecia: Preliminary Report

Five years ago, while Bengt Norman Bengston, Maywood, Ill. (J.A.M.A., Nov. 7, 1931), was resident at the Research and Educational Hospital of the University of Illinois, a woman with Fröhlich's syndrome was treated with various pituitary preparations. During the treatment, she developed a luxuriant hair growth, in addition to regaining her normal sexual desires, reestablishing her menstrual cycle, and losing weight. The growth of hair was particularly remarkable in that the patient and her immediate female relatives (mother and two sisters) all had, since early youth, a scanty atrophic type of hair, prone to dryness and easy end-splitting. Inferring a relationship of the pituitary therapy to this patient's hair growth and its change in texture, the author began to study the effects of certain pituitary preparations in cases of alopecia. He reports on sixteen patients, in all of whom the results were so striking that a preliminary report seemed desirable to render this treatment available for investigation by others, in spite of the relatively small number of cases. It seems that coincidence could be ruled out by the uniform success in these sixteen patients, most of whom tried (one over a period of twenty-three years) various kinds of other treatments. The patients were taken in order of admittance and treated without preference or selection. The results secured might be anticipated on theoretical consideration. An endocrine motor mechanism for the growth of hair must *a priori* be postulated, and, in view of the intimate association of the sex glands to the development of hair and of the pituitary to the sex glands, this mechanism might reasonably be looked for among these glands. On the basis of his observations the author concludes that a definite therapeutic relationship seems established between certain alopecias and the pituitary gland preparations used. The anterior lobe was in most of the cases, the sole influence in producing the growths of hair obtained. The hypodermic use of pituitary gland secured more satisfactory and more rapid hair growth than oral administration, which on the whole is disappointing. The combination of hypodermic injections in large doses (2 cc.) and oral administration was found to give the most rapid response.

℞

Magnitude of Regurgitation With Aortic Leaks of Different Sizes

Carl J. Wiggers, Cleveland (J.A.M.A., Nov. 7, 1931), has long maintained that crucial evidence of a considerable regurgitation in aortic insufficiency has not been adduced and further that all the typical signs can be logically explained on the assumption that only a reasonably small regurgitation takes place. By this he means a regurgitation volume equivalent to about 5 or 10 per cent of the systolic ejection, in contrast to the 50 or 60 per cent generally assumed by those who speak of a large, a considerable, a substantial or a significant regurgitation. He restates briefly the defects in the experimental evidence which led to his contention and then presents briefly recent experiments from his laboratory which make it necessary to abandon the view in the case of large leaks. Summarizing his present views, he states that both the magnitude of the regurgitation and its distribution during successive phases of diastole are determined by the size of the leak. Undoubtedly there are many incipient cases of aortic insufficiency clinically in which the magnitude of the regurgitation is not great, but it is probable that in advanced stages of the disease a large reflux obtains. In the former, regurgitation predominates during the latter phases of diastole; in the latter, it happens chiefly during the initial period of relaxation. Between these extremes, all gradations occur. The author's recent studies give promise of supplying a method by which the size of

the leak can be estimated in patients. The chief criterion is the steepness and depth of the incisural drop evidenced in optical records taken from the subclavian artery of man.

———℞———

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KANSAS MEDICAL SOCIETY

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The Treatment of Acute Generalizing Peritonitis

L. F. Barney, M.D., Kansas City, Kan.

Read before the Annual Meeting of the Kansas Medical Society, Manhattan, Kan., May 5, 6 and 7, 1931.

Peritonitis is an inflammatory process of the peritoneum which is usually infectious in origin, occasionally chemical and very rarely thermal.

The peritoneum is the continuous protective sac which lines the abdominal cavity and for descriptive purposes is divided into two parts: the parietal which lines the abdominal wall and the visceral which incompletely surrounds or covers the abdominal organs. In the male the peritoneal sac is completely closed but in the female it normally communicates externally by a circuitous route through the fallopian tubes, uterus and vagina. Normally this sac contains but a few centimeters of clear serous fluid but pathologically all of us have seen it contain several liters, clear, bloody or purulent.

While the chief function of the peritoneum is protective, another extremely important function is to permit mobility of the organs which it covers.

As stated, the abdominal cavity is comparatively small but the area of its lining is very extensive, approximately that of the skin and according to Crump has more than 17,000 square inches. In pondering over this immense extent of peritoneum which protrudes out here to cover an organ and darts in there to line a cavity, I was reminded of a recent trip over the basin of the Lake of the Ozarks which required only a few hours before the water was impounded but which when filled was said to have a longest diameter of about 60 miles and a shore line of about 1,500 miles that, traveling at the same rate of speed, will require several days.

The treatment of peritonitis as stated by Jones and McClure in Lewis Surgery (volume 5, page 25) "is directed toward two objectives of fundamental importance:

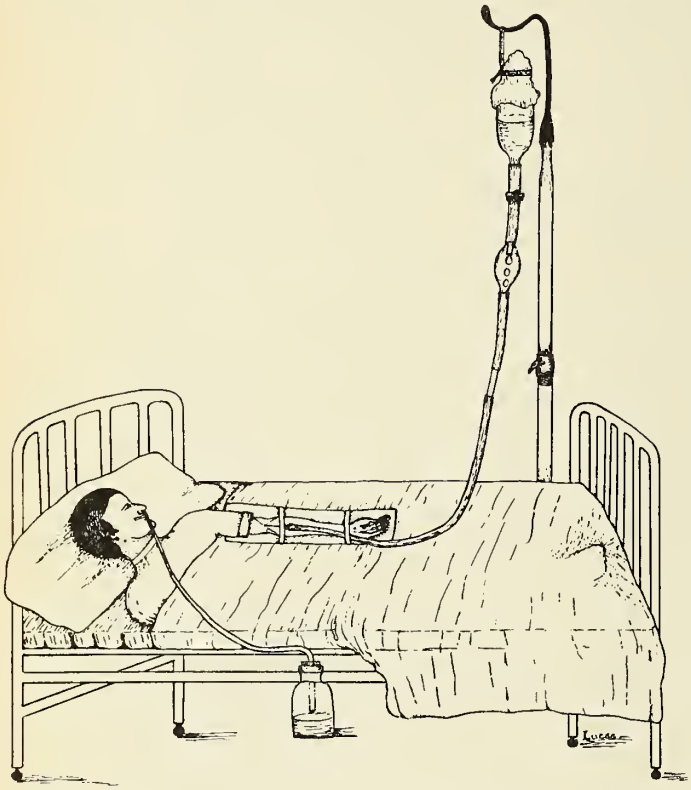
(1) Actual removal of the source of infection or the prevention therefrom of further contamination of the peritoneal cavity.

(2) Aiding and conserving the defensive powers of the peritoneum and the individual as a whole."

Here I would like to emphasize the prophylactic treatment. There is an Irish idiom which says "The best way to cure a disease is to prevent it." Peritonitis may be prevented by removing the source of the infection before the peritonitis occurs, e. g. the removal of diseased appendices vermiformis, gallbladders, large ovarian cysts, etc., during the quiescent stage. Formerly many, if not most, of the cases of peritonitis were the result of the introduction of infection during laparotomy but with modern asepsis and technic the abdomen is now entered with impugnity, and I might add, at times with too much impugnity. Now, most of the postoperative peritonitis follows appendectomies, cholecystectomies and salpingectomies and the majority of these could be prevented by operating at the proper time. In abdominal surgery it is as important to know when to operate as it is to know how to operate. Appendicitis should usually be operated at the very earliest possible time after the diagnosis is made while cholecystitis and salphingitis should rarely ever be operated during the acute stage. As an illustration of this latter Doctor M. J. Owens some time ago made a three year review of the postoperative mortality in two different hospitals in Kansas City following operations on the gallbladder. In one where many of the surgeons rushed these cases in and operated as soon as possible after the diagnosis was made the mortality was more than three times as high as in the other

where only the suspected gangrenous and perforated gallbladders were operated during the acute stage.

If a like survey of the salpingectomies were made a very similar difference in the mortalities would be found in those operated during the acute, subacute and quiescent stages. Furthermore, deaths from cholecystitis and salpingitis rarely occur during the acute stage. I am sure it would not be a severe tax on the memory of each one of us to recall deaths from peritonitis which were attributable to operating for cholecystitis and salpingitis during an acute stage that would not have occurred had the operating been deferred until the acute symptoms had subsided. During the acute stages of these diseases patients demand relief and it is easy to sell operations but, until all surgeons have the courage of their convictions and refuse to operate these acute inflammatory lesions until the proper time the postoperative mortality and the postoperative morbidity will continue far too high in the hands of surgeons with a poor sense of responsibility. In perforative lesions, as peptic ulcers, pancreatitis, intestinal wounds, some cases of appendicitis, etc., even more courage is required. In these cases in order to prevent a general peritonitis operation has to be made at times, even before an accurate diagnosis can be made and the surgeon, or more often the physician who sees the case first, must not be afraid to act for fear he will be criticised if he err in diagnosis. *Here time means life.* We must always remember that the patient's welfare comes first; that none of us are infallible; that the doctor who renders the most conscientious service will be the most successful when all things constituting success are considered.



Another upon whom great responsibility rests, but who unfortunately cannot be held accountable, is the anesthetist who prides himself upon the small amount of anesthetic given and permits the abdomen to remain rigid, forcing the contents out, chilling and traumatizing them, necessitating heavy packs that occlude accessibility to the operative field, making the operation more difficult and time consuming, thus exposing the delicate peritoneum to greater insult invites peritonitis.

Patients that die of peritonitis die as a result of toxemia, dehydration, starvation and hypochloremia. These are expressed clinically by the temperature, the rapid pulse, the cold clammy sweat, the profuse continuous vomiting, the inability to take fluids and food by a natural route, the marked prostration, the starry eyes and pinched face and the rapid emaciation. Unless these symptoms can be held in abeyance the condition rapidly progresses and the patient dies.

When once infection is introduced into the peritoneal cavity those infective micro-organisms per se cannot be recalled but much can be done to aid the body resistance to prevent their propa-

gation. For this we have at our command:

First and of most importance removal of the source of infection.

Second, drainage.

Third, supplying fluids.

Fourth, supplying food.

Fifth, supplying chlorides.

Sixth, reducing peristalsis.

Seventh, reducing pain.

(1) Removal of the source of infection has been partially discussed in the prophylactic treatment, by the immediate closure of perforative wounds and the excision of inflammatory and gangrenous organs. Gangrenous tissues produce toxins which continue to severely depress and lower the general body resistance. They should always be removed providing the removal does not cause a greater hazard than does the toxin.

In removing the source of infection in peritonitis the old statement of John B. Deaver "get in and get out" with as little disturbance of surrounding tissues must always be borne in mind. There is nothing that will do more to spread the infection than to have an anesthetic that increases the rigidity of the abdomen and the peristalsis of the intestines which further increases the distention of the already over distended bowels forcing them into the operative field and out through the incision, chilling and traumatizing their protective walls as they roll about bringing more and more structures into the contaminated field. Owing to the vomiting and precarious condition of the patients few anesthetists will dare to push the inhalation to the point of complete relaxation and in the past most surgeons have resorted to local anesthesia which they feel is better but not satisfactory.

Local anesthesia will make the incision painless but it will not take care of the pain due to traction on the mesentery of the tissues to be removed unless injected into it which would further spread the infection. Local anesthesia does not reduce the distention of the intestines and these push out through the incision causing more pain and the patient squirms around making the abdomen more rigid forcing the contents out further and increasing the difficulties.

We do, however, have an anesthetic which completely removes the rigidity of the abdomen, relaxes the sphincters, stops the peristalsis and contracts the intestinal walls pulling them out of the field of operation. Furthermore, there is no danger of inspiring foreign material into the lungs from the vomitus because the patient is not unconscious. To those of you who have used it I do not need to mention that I refer to spinal anesthesia and those of you who are sufficiently familiar with spinal anesthesia I am sure will never use any other form of anesthetic we now have at our command for these cases.

Drainage—From time immemorial the drainage of abscesses has been the treatment par excellence. Until recently general peritonitis was looked upon as a huge abscess, the peritoneum being the limiting membrane and attempts were made to drain it but this has proven insufficient because first it is impossible by any means to drain the entire abdominal cavity and second the peritoneum is not a limiting membrane of the abscess. When normal it is a protective membrane but when diseased it becomes more or less of a filter.

When a localized area of peritoneum is irritated and that always happens in peritonitis, that portion of the peritoneum produces an exudate of serum, fibrin and cell.

If the fibrin is in sufficient amount, and this is dependent upon the severity of the irritation, adhesions are formed and the infection is walled off. If the portion of the peritoneum is only omental and the fibrin is sufficient the process stops right there, but if the peritoneum is that covering the intestines the story will be entirely different. The intestinal adhesions produces immediately more or less intestinal obstruction in accordance with the extent of involvement. The obstruction produces increased peristalsis of the less involved proximal intestinal tract forcing their toxic contents into the affected area distending them more and more and their walls lose their toncity and absorption occurs. Back pressure increases retro-

peristalsis and more intestines are involved, and unless something be done the patient rapidly dies of toxemia, dehydration and starvation. To forestall this drainage is the logical treatment. Drainage of the peritoneal cavity has been so ineffectual that the pendulum has swung to the point that a few surgeons contend it is not only worthless but is harmful because it adds to the peritoneal insult. Most authorities still believe that where there is free pus, drainage should be placed into the purulent area and brought out through the abdominal wall and many, inasmuch as the pelvis is the most dependent portion of the abdominal cavity, that drains be placed in the pelvis. There are, however, other factors than gravity which have a tendency to distribute this infection, but time will not permit a discussion of this.

Since peri-intestinal drainage is not sufficient intra-intestinal drainage should be instituted. For this the following have been developed in this order:

1—Gastric lavage.
2—Enterostomy.
3—Continuous gastric lavage.

Gastric lavage has been so valuable that W. J. Mayo has been accredited with the statement that the surgical interne is much more efficacious in his ward rounds if he carry around his neck a stomach tube instead of a stethoscope.

There is no doubt that gastric lavage will do much toward the prevention of the early spread of peritonitis and should be used at the first sign of profuse post operative vomiting.

Enterostomy in the form of jejunostomy, ileostomy and cecostomy have been used very successfully. Donald McCrae of Council Bluffs, Iowa, has probably been the most ardent American supporter of jejunostomy. While all of these have been very beneficial they have two very distinct disadvantages. First unless they are done at the primary operation they necessitate another operation, and second they are not usually done until the patient is already suffering from paralytic ileus and then the tube will only drain a very small section of the damaged intestines.

Continuous Gastric Lavage—In recent years we have been using this with the happiest results and I will discuss it later.

Fluids, foods and chlorides will be discussed as one for they are usually given together.

Patients with peritonitis can retain but little when given by mouth and the little that is retained is not digested but putrefies and is crowded down into the paralized distended intestines increasing toxic absorption and it was early learned that the giving of food and fluid by mouth is contra-indicated despite the pleadings of these starving thirsty patients, only increasing their suffering.

Proctoclysis: The immortality of the name of that illustrious teacher, John B. Murphy, has been indellibly stamped by his establishment of proctoclysis which has reduced the mortality and suffering of these stricken patients immeasurably. The weakness of proctoclysis is that in many cases it is difficult to get patients to retain sufficient quantities of fluid, and recently research workers have shown that the pabulum which is given mostly in the form of glucose is not absorbed. They claim that we have been

CASE DEMONSTRATING VALUE OF CONTINUOUS GASTRIC LAVAGE AND VENOCLYSIS

January	5	6	7	8	9	10	11	12
	Operated—Vomited	Continuous Vomiting	2400 vomited 1400 nasal tube	16830	18120	11350	3200	5480
Gastric drainage	420							
Urine	850	1170	930	1265	1620	3590	3560	4170
Total output	1270	?	4730	18095	19740	14940	6760	9650
Drank	920	1650	3220	15500	19920	12950	7590	6200
Venoclysis	0	1500 Hypodermoclysis	2450 Hypodermoclysis	4000	4000	4000	4000	4000
Total intake	950	3150	5770	19500	23920	16950	11590	10200
Temperature		103	101.8	103.5	101	101.6*	101.6	101.5
Pulse		118	128	140	120	110	96	88

*Wounds discharging pus-smear bacillus coli and streptococcus hemolyticus.

only fooling ourselves by giving glucose by rectum.

Hypodermoclysis has been the next step forward and by this means fluid, salt and glucose are given subcutaneously. While invaluable it has the disadvantage of adding discomfort to the patient that is already in distress and the quantity that can be given is limited.

Intravenous infusion has had a limited place in treatment. Its disadvantage is that much less can be given by this method than by proctoclysis and hypodermoclysis and when given frequently produces a chill which mitigates its usefulness.

Venoclysis—Recently we have been using this with the happiest results and in the last few months it has been the chief factor in saving the lives of eight successive cases of so-called general peritonitis which we believed were moribund and would have died without it. Venoclysis is the continuous giving of fluids into the veins. We have usually used 10 per cent glucose in normal saline and have averaged giving 4000 c.c. of the fluid which contains slightly more than 1600 calories per twenty-four hours. The rapid improvement and sense of well being in these patients is almost unbelievable to the inexperienced.

Under the treatment of continuous gastric lavage and venoclysis in peritonitis, opium, hot packs, pituitrin, enemas, laxatives, etc., have been relegated to such a secondary place I shall not take the time to discuss them.

The treatment by venoclysis goes hand in hand with continuous gastric lavage.

Continuous gastric lavage is the continuous drainage of the stomach and intestines by a tube in the stomach and by permitting the patient to drink fluids ad libitum which is immediately drained away carrying the toxic material with which it comes in contact out with it.

The stomach tube is large and distressing to swallow and can only be retained for a few minutes at a time.

Rehfus, Einhorn and other tubes which are taken by mouth are difficult and at times impossible to insert and when inserted often increases the gagging and discomfort to the patient until they will not retain them.

The nasal feeding tube can readily be inserted, cannot be chewed in two, is less uncomfortable and may be left for days. When once inserted and the gastric contents have been washed away patients may be given fluids ad libitum and will literally take thousands of c.c., without distress and their vomiting will immediately cease. The fluids swallowed along with the toxic material it comes in contact immediately siphons away. Rapidly following the gastric evacuation retroperistalsis forces the intestinal contents into the stomach and it too is drained away and the distention of the abdomen disappears. Before the tympany has disappeared it is interesting to watch the air bubbles as they appear at the end of the tube.

The fluids given by mouth do not have to be limited to water and we give most any liquid foods these thirsty, hungry patients desire, such as orange juice, coffee, tea and broths. Although we know the patients get no food value from this, they think they do and this adds to the sense of well being and stabilizes the mental equilibrium which is a great asset to the ill. They get the fluids and food from the four quarts of salt solution and the 1600 calories of glucose they receive in their veins is sufficient to carry on.

ABSTRACT OF HISTORY OF ABOVE CASE OF SUBACUTE APPENDICITIS

E. F., male, white, age 39, married, occupation steam shovel. Entered St. Margaret's Hospital 12-24-30 on service of Doctor Dillon.

Complained pain in abdomen, worse in region of right lower quadrant and in left loin.

Present Illness—Patient had previously been in St. Margaret's Hospital three months ago under the urological service of Doctor Dillon who had made a diagnosis of left ureteral stone with stricture of left ureter and left hydronephrosis. Since then feeling fairly well except an acute attack of pain three weeks ago. This pain was severe and in the region of the left kidney but did not radiate toward the testis or penis. Passes bloody urine at times.

Yesterday (12-23-30) had colicy pains in the epigastrium and had to go to bed at 10 a. m., because of the pain. Felt nauseated but did not vomit except when he stuck his finger in his throat. About 4 p. m., the pain seemed to settle in the right side where it is now. Is also tender in the left kidney region. The pain yesterday at 10 a. m., was also present in the left kidney region. No bloody urine passed since yesterday. Bowels regular. Took salts last night.

Physical examination essentially negative except large tonsils, perforated septum, rigidity and tenderness in right lower quadrant.

Laboratory Examination—Hemoglobin 72—W.B.C. 11700—Poly 79.

Progress Notes—12-24-30: Cystoscopy —later nauseated and vomited—temperature normal at 4 p. m., 101 at 9 p. m., pulse 88, respiration 22.

12-25: Temperature 99.4 this a. m. Abdomen still tender but definitely tender at McBurney's point, considerable rigidity.

12-26: Slept well. Abdomen soft but tender; temperature 102 last evening.

12-27: Feels fine now; tender over McBurney's point; pulse and temperature normal. Report of consultation with Doctor Barney. "History of attack beginning four days ago with upper abdominal pain, nausea and vomiting followed by pain in right lower quadrant, tenderness and rigidity. Slight fever and leucocytosis. There is history of definite findings previous of ureteral stone with hydronephrosis. Examination today reveals almost no rigidity, pain, tenderness or fever. Diagnosis: mild attack appendicitis which is subsiding. Recommendation: Keep patient in bed, light diet, no cathartics. Few days later appendectomy without ether, midline incision to endeavor to milk stone from ureter into bladder."

Transferred to surgical service of Doctor Barney.

12-29: Deep tenderness at McBurney's point. Has coryza, sneezing, no cough. Given urotropin gr. xv. Acid sodium phos., gr. xv every four hours with full glass of water. Neosilvol 15 per cent instilled into nose four times daily.

12-31: Coryza continues; no cough; abdomen negative.

1-2: Feels good; head clear; tightness of chest but no cough.

1-4: Slight nasal obstruction; chest negative; patient's condition good.

1-5: Operation under spinal anesthesia; suprapubic incision. Stone palpated in left ureter two inches above uretero—vesicular junction but not disturbed. Appendix completely retro-cecal and in freeing same tip was torn off, stump excised with cautery and stump buried by purse string suture. Wick drain inserted to base of appendix through stab wound. Wound closed in layers reinforced by three button silkworm sutures. Patient left operating table in good condition.

1-6: Patient had stormy night, vomited frequently and had considerable cough; given hypodermoclysis.

1-7: Vomiting till 4 p. m. Gastric lavage; 1500 c.c. stomach contents removed. Nasal tube inserted and left in till 4 p. m. Sleepless, moaning with pain.

1-8: Patient complains of generalized pain over abdomen. Abdomen rigid and does not move with respiration. Evidently patient has developed generalized peritonitis during night (Interne). Venoclysis 10 per cent glucose in normal saline started at 10:30 a. m. at rate of 60 drops per minute.

1-9: Abdomen distended and lower part dull on percussion.

1-10: Abdomen distended; pus exuding from wound. Two stitches removed; 6 ounces of foul thick pus evacuated; showed bacillus coli and streptococcus hemolyticus.

1-11: Patient's abdomen distended but more comfortable.

1-12: Bowels moved of own accord; uneventful; patient feeling good.

1-13: Venoclysis discontinued but patient insists upon it being continued saying he felt better and stronger as soon as it was started; nasal tube discontinued.

Excepting abdominal wound drained until 1-28-31, further convalescence was uneventful.

1-31-31: Patient discharged well.

Venoclysis may be given by the ordinary Murphy drip for proctoclysis at

the rate of one drop per second which will give 4,000 c.c. per 24 hours. When given too fast edema occurs and a hyperglycemia develops. When given too slow the needle becomes clogged. Special cannulae have been devised and these usually require cutting down upon and ligating the veins to insert them but we have found the ordinary phlebotomy needle of 20 guage with short bevel satisfactory. These usually may be inserted through the skin into the veins without incision and remain in the vein until they become clogged which varies from a few hours until three or four days, very much depending upon the close observation of the nurse in kepeing the drip constant and the arm quiet. To prevent the needle being displaced the arm is fastened comfortably to a well padded splint and the splint fastened rigidly to the bed so the arm will not move and the needle is held in place in the arm by adhesive plaster. The tube leading to the needle is also strapped with adhesive plaster over the anterior surface of the fore arm to prevent its becoming disconnected or kinked.

No attempt need be made to keep the solution warm for when given at the above rate it is not only harmless but satisfactory at room temperature and we have never had a chill, fever or glycosuria develop as a result. Glycosuria has been reported by Hendon as occurring temporarily when given at this rate but disappeared without treatment and without discontinuing or reducing the fluids. The only untoward effect we have had has been localized phlebitis which disappeared in a short time after the discontinuance of the fluid in that vein. Hendon has given venoclysis continuously for 23 days but we have never continued it more than 5½ days in our cases of acute generalizing peritonitis because it was no longer necessary and all of the eight cases recovered except a case brought in moribund that had had a general adhesive peritonitis of 13 days duration with a large ovarian abscess and even she improved; her mentality cleared, vomiting ceased, distention lessened and she had a sense of well being and thought she was going to get well.

Within twenty-four hours after starting the venoclysis and continuous gastric lavage our cases that were irrational became rational, the vomiting ceased, the urinary out-put increased, pain and distention of the abdomen decreased, the patients appeared and said they were stronger; euphoria increased and usually about the third or fourth day the bowels would move without assistance.

Diverticula of the Intestines

Alfred O'Donnell, M.D., Ellsworth

Read before the Annual Meeting of the Kansas Medical Society, Manhattan, Kan., May 5, 6 and 7, 1931.

My excuse for presenting a paper on this subject is a report of the following case:

E. B., female, housewife, age 49, was admitted to the Ellsworth Hospital October 10, 1930, with a history of abdominal pain and distress. Pain more in upper abdomen and under border of ribs on right side, has nausea and occasional vomiting. Gas and distention worse two or three hours after eating. Her symptoms have extended over a period of several years but pain in upper abdomen worse in past year; during some of her attacks patient noticed a swelling or "lump" in the right side of abdomen about level of umbilicus, this would be present one to several days and was accompanied with an "undescribable feeling of fullness."

May 15, 1930, had *x*-ray of gall-bladder region; gall-bladder not visualized. During the period between May and October she was treated medically without much relief.

PREVIOUS HISTORY

She was operated upon in 1912, fistula in ano, and again in 1920 for rectal abscess.

In 1925 she had begun to have loose bowel movements containing large quantities of mucous, would have from two to six movements a day accompanied with cramps in bowel; this would be followed with several days of ease but would have two or three stools daily. Diarrhoea lasted about two years; since this cleared up she has been very constipated and "requires physic enough for three people."

x-Ray of lower bowel following opaque enema shows a spastic colon, examination at this time shows no diverticula in the lower bowel.

Family History—Negative. Has one child living.

Physical examination reveals female adult, 49 years of age, temperature 99⅔, pulse 80, weight 130 lbs., head negative, chest and heart negative, abdomen—slight area of tenderness in epigastric region about midline, marked gall-bladder tenderness, also increased tenderness on deep pressure over McBurney's point, kidneys negative, also pelvic examination negative. Urinalysis negative for albumin and sugar; blood count 4,500,000 reds, leukocytes 15,000, 80 per cent hemoglobin.

Operation October 11, 1930, appendectomy and cholecystostomy performed, appendix has numerous old adhesions around base showing evidence of past trouble; gall-bladder contained some thick tarry bile, no concretions. While removing appendix, portion of ileum presented itself in the incision, this showed a large diverticulum about the size of an English walnut, on further examination shows several diverticula along the terminal ileum beginning about four inches from the ileo-cecal valve and involving four feet of the gut; there are eighhteen diverticula ranging in size from a cherry to a small potato, the rest of the bowel is apparently normal. Resection of the diverticula bearing portion of the bowel and lateral anastomosis was done. Patient made an uneventful recovery and when last seen April 11, 1931, is entirely free of her old symptoms; now weighs 158 pounds.

LABORATORY REPORT

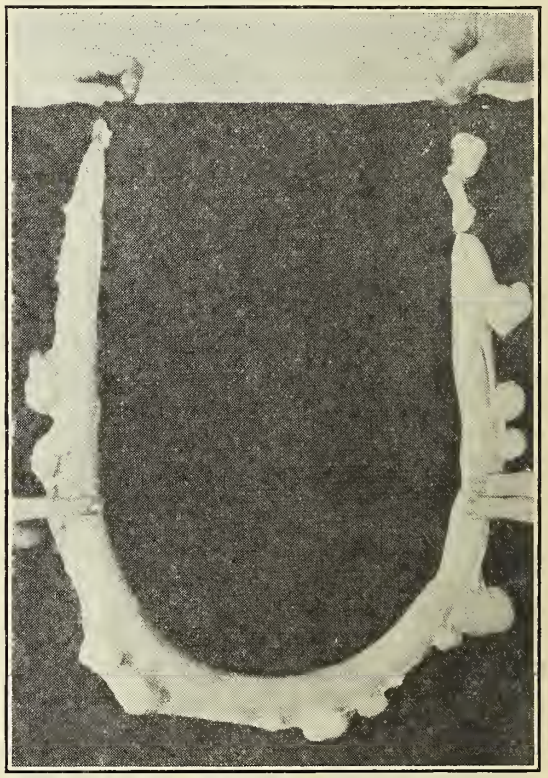
Gross Pathology—Specimen consists of a segment of small intestine measuring 104 cm. in length and from 3 to 4 cm. in diameter. The serosal surface is smooth, moist, and glistening. Situated along the mesenteric border are numerous thin-walled diverticulae, 12 in number. These measure from 3 to 5 cm. in diameter. These diverticulae show no inflammatory lesions. The mucosa of the diverticulae and intestine show no abnormality. There is a small constriction band present 29 cm. from one end where the intestine measures 2½ cm. in diameter.

Histological Pathology—Section through the wall of the intestine shows almost complete necrosis of the epithelium, the tissue staining very faintly. Nothing particularly abnormal seems to be present.

Section through the wall of the diverticulae seems to be composed of nothing but mucous membrane in which the cells are more or less degenerated and a portion of the submucosa. No muscular tissue is seen. Congestion of a portion of the muscularis mucosa is seen but the muscular coat of the intestine is not seen.

Diagnosis—Multiple diverticulae of the small intestine.

H. R. Wahl, M.D., Pathologist.

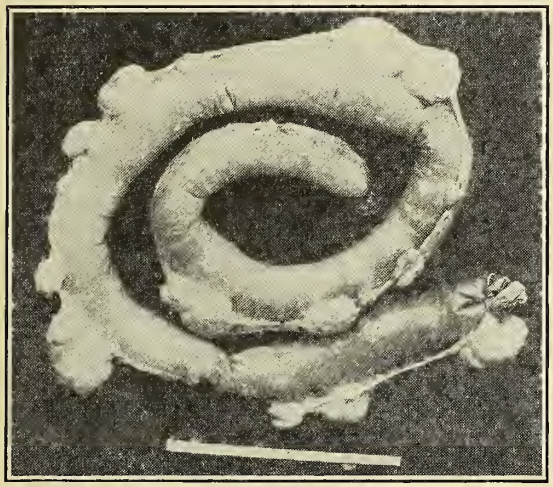


Diverticula of the Ileum
(Author's case)

Through the kindness of Dr. Otto Kiene of Concordia, I have also the following case to report together with picture of specimen obtained of diverticula of the jejunum.

J. H. P., male, age 44. Complained of

gas and abdominal distress, these attacks were accompanied by distention of abdomen and a sausage shaped mass could be palpated; operation June 28, 1928.



Diverticula of the Ileum
(Author's case)

On opening abdomen, this mass proved to be part of the small intestine which was as large as the colon and covered with diverticula on the mesenteric side. Resection of forty-nine inches of gut beginning about ten inches below the beginning of the jejunum.

Since operation he has had no recurrence of his symptoms and has gained considerable in weight.

Diverticula of the Small Intestine
(Courtesy of Dr. Otto Kiene)

John R. Boling[1] reports case of man, age 58, who was operated on in November, 1929, for intestinal obstruction. At operation he found in the small intestine an enormous number of diverticula in size from a pea to a walnut, location was thought to be the lower part of the jejunum and first part of the ileum. The obstruction was relieved and an enterostomy was done; since the diverticula did not seem to be causing trouble at that time, nothing was done with it. The patient made a good recovery and left the hospital in good condition.

August 5, 1930, he was again admitted to the hospital with symptoms of intestinal obstruction; since his discharge in November he had been in good health. The present attack began twelve hours before being admitted, diagnosis being intestinal obstruction and multiple diverticula of the small intestine. On operation obstruction was found to be caused by the looping of the ileum about the adhesion of the enterostomy, this was freed. Since the patient was in good condition, resection of the diverticula bearing intestine was decided upon. On complete exposure of the involved intestine, it was found the diverticula began about a foot from the ligament of Treitz and continued down about sixty inches. Boling was surprised to find the diverticula enormously increased since the previous operation, there seemed to be about the same amount of intestine involved but where before there were three or four small diverticula to a certain space there was now one large one, several small diverticula coalescing to form one large one; resection of the entire involved intestine was done and end to end anastomosis was made.

Rothchild[2] in 1925 collected thirty-three case reports of diverticula of the jejunum from articles by Balfour, Helvestine,[3] Watson and others, of this number nineteen were multiple, ten of them were not discovered until operation.

Diverticula may be classified as true and false or the congenital and acquired type. The histology of the true type consists of all the coats of the intestine, while the false type lacks the muscular layer. This anomaly occurs more frequently in the large intestine. The congenital usually represents some form of Meckel's diverticulum. With the exception of the duodenal diverticula most of those occurring in the small intestine are situated along the mesentery border and usually come out through the weakened

places in the musculature, such as the places where the blood vessels enter in the mucosa. In the large intestine they are more frequently in the sigmoid portion. Here they are most common in the mesenteric border or on the side of the gut where the appendices epiploicae are attached. The diverticula consist of invaginations of the mucous membrane of the bowel, which pass through holes in the muscularis coat and come to lie underneath the serous lining, more or less elevating it, or which bore into a mesentery rich in fat, so that looked at from the outside they are invisible. It is only Meckel's diverticulum that commonly come off the convex border of the gut. The acquired type are not easily explained. Most investigators feel they are preceded by some form of chronic inflammation and that this inflammatory condition has something to do with their production.

Meckel, in 1812, first described a diverticulum in the lower ileum, which, he showed, was a result of the persistence of the omphalomesenteric duct. This pouching, or diverticulum, has since been designated as Meckel's diverticulum. The incidence of Meckel's diverticulum is from 2 to 3 per cent, (Christopher, Boyd, Abt, and Strauss). Balfour found 15 cases in 10,000 consecutive laparotomies. The diverticulum is usually located about one meter above the ileocecal valve, but this distance may vary considerably. The reason for its location nearer the cecum than the duodenum is the greater growth of the prearterial segment of the midgut as compared with that of the post-arterial segment.

The omphalomesenteric duct may be present throughout its entirety, so that an intestinal fistula extending from the ileum to the umbilicus may exist. Mueller, in 1906, collected forty such cases of open diverticula. More commonly, however, the condition exists as an incomplete diverticulum with the opening in the ileum. The tip of the diverticulum usually lies free in the peritoneal cavity. It may, however, be attached to the umbilicus by means of the obliterated omphalomesenteric duct or to some abdominal viscus by means of adhesions. Aside from the case of complete diverticulum or fistula, the patient is unaware of the fact that a congenital anomaly is present, unless some complication ensues.

The surgical complications which may arise in a Meckel's diverticulum are:

I. Intestinal obstruction
II. Ulceration
III. Diverticulitis
VI. Intussusception

McFarland[4] states that occasional small acquired diverticula having no definite localization, and frequently occurring upon the convexity of the organ and usually not larger than the tip of the finger, are supposed to result from imperfections of the muscular wall which permits the mucosa to prolapse, and form a pocket covered only by the serosa.

There are also rare, small, diverticula, usually of pea-size but in very rare instances reaching the size of a small apple, that arise from points near the mesenteric attachment, through prolapse of some or all of the coats of the intestine along the course of the larger veins of the mesentery. These may occur at any segment of the intestinal canal.

But the most frequent acquired diverticula occur in the lower part of the colon, usually the sigmoid. They are pseudo-diverticula not being composed of all of the intestinal coats, the muscularis commonly being defective. Their size varies from a pea to a hazelnut. They are usually multiple, arranged in series along each side of one of the longitudinal bands of muscular fibres, and project externally at regular intervals where vessels well supported by fibrillar connective tissue occur.

The number and regularity of their distribution is suggestive of some congenital defect in the structure of the intestinal wall. Each contains a small rounded mass of plastic or firm feces by which it is distended. Such diverticula are frequently and unexpectedly discovered at autopsy, in patients uninjured by their presence. They may, however, be a source of danger when the seat of inflammation—diverticulitis. But acquired diverticula are not confined to the sig-

moid, as had already been shown, and may occur in any part of the intestinal canal, and be very numerous, Hahnsemann having observed a case in which there were 400 separate sacculations. Although most numerous and frequent in the sigmoid, they occasionally occur as far down as the rectum. They may be true diverticula, i.e., be surrounded by all of the intestinal coats, under which circumstances they usually do no harm as the contraction of the muscle in their wall enables them to discharge their contents. But ordinarily they are false diverticula, which McGrath describes as "mucosal hernial," because they consist only of the internal mucous membrane and the external serosa. They are really pressure diverticula, whose development results from the pressure of gas and feces upon an imperfect intestinal wall, the weakest spots in which yield in the direction of least resistance, which is usually toward the mesentery, or into the epiploic appendages. They have been observed at all ages but are very rare except in later life, and Masson states that diverticulitis "is essentially a disease of middle life and old age." Of 116 cases operated upon for diverticulitis in the Mayo Clinic up to 1921, 81 were males and 35 females. The youngest patient was 15, the oldest 75 years, the average age 52 years.

In all cases of diverticula the patient can be considered to be menaced first by infection and inflammation of the wall of the pouch, and second by possible rupture of the thin wall of the diverticulum when the gas pressure in the affected part of the intestine is greatly increased. W. J. Mayo quotes "a certain practitioner who is also an automobile enthusiast as referring to diverticula in the colon as 'blow-outs of the inner tube.' "

Infection probably begins, much as in appendicitis, as catarrhal disturbance of the interior, but the thinness of the diverticular wall determines that peridiverticulitis quickly follows. This may result in the formation of an abscess, whose rupture into the peritoneal cavity is prevented by previous adhesion between the affected part of the intestine and neighboring structures. Thus the sigmoid becomes attached to the bladder, other parts of the intestine, or even to the abdominal wall. The resulting abscess is, therefore circumscribed, and the future damage limited. But the continued internal pressure directs intestinal contents in to the abscess cavity, and maintains the inflammation and suppuration, commonly determining that eventual rupture shall occur into the bladder, or elsewhere. In this manner various fistulas may arise, singly or otherwise according to the number of diverticula involved. Mayo has operated upon a case in which there were six intercommunicating intestinal fistulas with one or more openings into the bladder.

The massive adhesions resulting from the attempted healing in such a condition may easily be mistaken for carcinoma, and is, no doubt, in some cases associated with it. Those most familiar with the changes in diverticulitis are most positive in their belief that the chronic inflammatory disturbance associated with it is a potent factor in initiating the cancer process. And it indeed seems probable since 14.65 per cent of the cases in the Mayo Clinic series were found to have malignant changes at the time of operation.

Causes of Formation of Acquired Diverticulus: Helvestine[3] believes there are three factors operating conjointly in the formation of acquired diverticula.

1. Traction by mesenteric vessels or traction following adhesions.
2. Degeneration of intestinal muscularis.
3. Intra-intestinal pressure.

Causes as summed up by Sheppe[5]:

1. Increased abdominal pressure caused by rectal and vesical tenesmus.
2. Atrophy of the inner circular layer of the intestinal musculature.
3. Traction on the intestine by mesenteric vessels shortened by sclerosis and adhesions.

That no one factor produces diverticula seems the most likely conclusion of the study of the experiences of the many observers, Rankin states. "It seems reasonable to assume, however, that the outstanding features of their formation have to do with inherent weak-

ness of the wall of the bowel, in addition to increased intra-colonic pressure, which results from constitutional or environmental causes. Certainly, there must be some congenital predisposition in many cases, and undoubtedly obesity, venostasis, and constiuation, with their noxious cycle of intoxication and lowered resistance, play a part. To this one might add the questionable promoting factor of retrograde peristalsis, but with the mental reservation that there is little conclusive proof as to its actual, positive influence. Once the diverticulum is formed it becomes a bottle-shaped process, with a narrow mouth and wide body, into which the fecal current projects itself and from which it is released reluctantly. There is consequent inflammatory change secondary to obstruction and stagnation and the rather constant pathologic picture.''

Overton[6] emphasizes that not all individuals with multiple diverticula of the large intestine present symptoms—although they are certainly liable to the development of distinct clinical symptoms at some later period.

A case was cited of a white female, aged fifty-two years, weight 195 pounds, who came to the hospital because of symptoms of gall-bladder disease. Barium enema revealed, multiple diverticula of the large intestine, an accidental finding in the course of a routine examination. She had a diseased gall-bladder, which was removed with complete relief from symptoms. The diverticula in this case probably produced no symptoms.

''It must be clearly understood that the development of symptoms is entirely dependent on complications of the simple picture described, and the chief of these complications is infection, with inflammation, which may be acute suppurative, subacute, or chronic. The extent of the inflammation and the involvement of adjacent structures give rise to the different clinical pictures produced by the process. It must be recognized that anything can happen to one or more of these diverticula that can happen to the vermiform appendix. The saccular pouches are practically devoid of muscular coat, and, have no self-emptying mechanism, and are prone to become impacted with foreign bodies as grape-seeds, etc., or with inspissated feces. The opening of communication with the bowel is usually small, favoring stasis within the diverticulum. Stasis favors multiplication of virulent organisms with resultant infection and inflammation.''

Probably the most common symptom complained of is pain of some kind. Usually it ranges from an intermittent sharp pain, probably secondary to formation of gas, to a slow, boring type of discomfort which is present more or less constantly. There is no typical pain in diverticulitis, but the complaint is present in practically every case at some time during the disease. Usually it is situated in the lower left quadrant, or in the lower mid-abdominal section. Its reference depends largely on the accompanying complication which usually is attachment to, or perforation, of, another viscus. Rankin and Brown[7] report four cases in a series of 592 in which the pain was referred to the right side, but this, they conclude, is extremely unusual. Constipation, as would be expected, is a rather constant accompaniment of diverticulitis, particularly when it has advanced to the complicated stage or when tumefaction, with encroachment on the lumen of the bowel, is present. In 142 cases (60 per cent of their series), constipation, either alone or alternating with diarrhoea, which was atypical, was observed. On the other hand, diarrhoea alone was present in thirty-five cases (11 per cent of their series) and although it was not true diarrhoea, but usually more of a rectal tenesmus, with passage of a small amount of mucus, pus and fecal material, it gave sufficient disturbance of the intestinal habit to call the patient's attention to its presence.

The treatment of diverticulitis is preferably medical and usually only when complications occur is operation to be undertaken. The presence of a tumor, especially if associated with obstruction, arouses fear that the trouble is malignant and if the other clinical data, particularly the history, do not tend to sup-

port the diagnosis of diverticulitis, operation must be carefully considered. Medical treatment in acute cases consists essentially of rest in bed, residue-free diet at the onset, ice-bags to the abdomen, and rectal irrigations with hot physiologic solution of sodium chloride. As the condition subsides in the course of a few days, a bland, anticonstipation diet is instituted and mineral oil is given orally. In the use of the mineral oil, Rankin believes it is preferable to administer only 4 to 8 c.c. three times daily rather than 15 to 30 c.c. once or twice daily. "Excessive oil merely leaks through the rectum in many instances and gives rise to the desire to discontinue its use. When the oil is used in small doses, this objection seldom arises, and we consider the constant lubrication of the area of the diverticula of such importance as to necessitate continuation of the oil indefinitely." The hot irrigations are discontinued as soon as the inflammatory reaction subsides and the bowel begins to empty naturally. Some recommend the use of tincture of belladonna since it may help to relax the intestinal spasm, it is administered in doses of a 0.33 to 1 c.c. three times daily.

On the patient's dismissal, constant diligence in the care of the bowels, and daily use of mineral oil, must be emphasized. Even in cases of diverticulosis, this advice is indicated, since it may minimize the potential danger of dverticulitis. Symptomless diverticula require no treatment.

Surgical interference, because of the mere presence of diverticula, or even in the early inflammatory stages of the disease, is perhaps not indicated. It is perhaps better to confine surgical operation, in this ailment, to chronic complicated cases or to cases of the acute type in which the condition has progressed to perforation. The complications which may necessitate surgical intervention are: acute perforation, abscess; fistula, whether external, vesical, intestinal or multiple; inflammatory obstruction and malignancy.

In an address on "Diverticulitis of the Colon" Drs. Rankin and Brown[7] draw the following summary and conclusions:

Diverticulosis is quite prevalent, apparently occurring in about 5 per cent of persons who have symptoms referable to the large bowel, but probably actually occurring in about 1 per cent of all persons.

Diverticulitis probably occurs in about 17 per cent of cases of diverticulosis and in most instances is chronic in its course and subject to exacerbations.

The etiology of diverticula is obscure, but they are probably the result of several factors, among them inherent muscular weakness in the wall of the bowel and environmental conditions, obesity, and constipation.

Diverticulitis probably is the result of improper emptying of the bottle-shaped sacculations, with subsequent inflammatory reaction, necrosis, and occasional perforation.

The relationship of diverticulitis to carcinoma probably is incidental rather than actual.

In 227 cases as treated at the Mayo Clinic, a malignant condition was found associated in four only.

Diverticulitis occurs almost entirely in persons of middle age who are inclined to be corpulent and who lead sedentery lives. Diverticulitis usually runs a chronic course with several exacerbations and yields satisfactorily to dietary and medical treatment.

The outstanding symptom of diverticulitis is pain, usually situated in the lower left portion of the abdomen and is frequently associated with constipation. Change in bowel habit is a confusing factor.

The medical treatment of acute diverticulitis consists of watchful watiing while the patient is at rest in bed and is given irrigation of the affected segment of bowel with warm sodium chloride solution and other sedative solutions. As the process subsides, anticonstipation diet and the use of small doses of mineral oil orally are given. A dietary regimen is highly essential and probably often prevents complications.

In a definite percentage of cases, diverticulitis tends to become complicated. The most common complications are abscess, fistula, and perforation.

The treatment of the complications of diverticulitis is usually surgical, particularly of the internal fistulous formation in which a viscus, such as the bladder, is penetrated by the inflammatory process.

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Gastro-Duodenal Ulcer: Physiological Aspects of Etiology, Symptoms and Treatment.

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As a physiologist I became interested in the problem of gastric and duodenal ulcer because I desired to study the effect of chronic peptic ulcer on gastric motility and secretion and on the tone of the vagus nerve, and to ascertain whether perverted gastro-intestinal physiology might be related to the etiology of peptic ulcer.

I was immediately confronted with the question of how to produce a chronic duodenal or gastric ulcer. At this point the question might occur to some of you, namely, why did I not choose ulcer patients for my subjects and make my studies on them? The answer to this question is that if I used ulcer patients, I would not have the opportunity to make control studies or to establish a normal, prior to the development of the ulcer, and even after the ulcer had been healed by therapy, one could not feel assured that the gastric physiology had returned entirely to normal.

Not being able to find in the literature in 1916 a method for producing chronic or acutely perforating peptic ulcers, we set out to ascertain if we could produce such ulcers. We found and confirmed many methods of producing acute ulcers. They could be produced (1) by most any procedure which would cause a marked spasm of the pyloric antrum, such as vomiting, injection of pilocarpine, histamine, toxins, bacterial suspensions, and electrical stimulation of the peripheral vagus, or (2) by the local application of caustic substances or excision of a portion of the mucosa, or (3) by the injection of bacterial suspension, toxic agents and emboli into the gastro-epiploic arteries. But all such acute ulcers healed and healed quite rapidly. An acute ulcer of the pyloric mucosa 1.5 cm. in diameter healed in from 15 to 18 days and of the duodenal mucosa in from 18 to 21 days. We were amazed at the healing power of the gastric and duodenal mucosa and wondered why chronic ulcers ever occur. So we started a study of the factors that might possibly be concerned in delaying the healing of acute ulcers.

Much experimental, clinical, and pathological evidence indicates that the following factors are concerned in delaying the healing of an acute ulcer: (1) A disturbance of nutrition and digestion, (2) Infection, (3) Allergy, (4) The blood flow and fibroblastic reaction about the ulcer, (5) The mechanico-functional factor, due to pylorospasm and improperly masticated rough foods, (6) The corrosive and irritative action of gastric contents, (7) Mucosal susceptibility as determined by (a) the "ulcer forming gastritis and duodenitis," and (b) the natural resistance of mucosa to gastric contents, the duodenal mucosa being less sensitive to gastric contents than the jejunal mucosa. These factors have been discussed in considerable detail by Fauley and Ivy in the American Journal of Surgery (March, 1931).

I feel that pylorospasm in man is a very important factor, anxiety being the chief cause of the disturbed gastro-duodenal physiology. Pylorospasm operates by augmenting or exaggerating the mechanical and chemical factors normally present during gastric digestion. Pylorospasm, by mechanically rupturing a blood vessel, causes a hemorrhage into the mucosa which develops into an erosion or an acute ulcer on the digestion of the cells in the region of the hemorrhage. This acute lesion does not heal readily because the pylorospasm causes

gastric retention.

Gastric retention augments and prolongs gastric motility which, along with insufficiently masticated or large pieces of indigestible residue, acts as a mechanical irritant (see experimental effect of manipulation of an acute ulcer). The motor drive of the stomach or the force of ejection of chyme is increased (see experimental effect of a small gastro-enterostomy orifice). Gastric retention also causes a hyper-normal gastric acidity and prolongs the time of contact of gastric contents with the acute lesion which increases the irritating action of gastric contents on the acute lesion.

In the dog and possibly in man a third factor (see the other chronicity factors discussed in this paper) is necessary, since pyloric stenosis per se definitely delays the healing of acute lesions but does not result in a permanent chronic ulcer of longer duration than approximately two months. The ulcer bearing gastritis of Aschoff may be this factor. In regard to the latter factor we should not expect a lesion in a mucosa irritated with pepper, hot fluids, or alcohol to heal in normal time.

This opinion is neither new nor original, but is suported by our own evidence and that of others. According to this view, ulcer of the stomach and duodenum in man is primarily due to a disturbance of gastric and duodenal physiology and the clinician must give much attention to the diet, environment, and eating habits of the ulcer patient.

The physiological aspects of symptoms and clinical findings: Pain: The pain in ulcer when it occurs is chiefly of two types, (1) the continuous distress, (2) the intermittent gnawing pain. The continuous distress is most probably due to local edema of the tissues about the ulcer due to acid and to a more or less continuous local muscle spasm. The intermittent pain is due to the tonic peristalses that occur toward the end of digestion which increase spasm or act on a hypersensitive nervous mechanism. In some patients some of the continuous pain is probably due to an extrinsic reflex mechanism since it is relieved by atropine. The cramp-like pain that occurs at times is due to a massive pylorospasm.

Retention: Functional retention is due to an extrinsic reflex and an intrinsic nervous reflex. Of course, inflammation and organic stenosis are organic causes.

Hyperistalsis: Same is true.

Hyper-normal secretion: In ulcer one finds all the variations that can be found in normal subjects. If retention is present we have the physiological basis for a hyper-normal secretion; (a) mechanical and (b) chemical.

The physiological aspects of the treatment of ulcer: The general principle so frequently enunciated is physiological rest of the ulcerated part.

The surgeon either removes the ulcer or attempts by some plastic operation to put the ulcerated part at rest. The internist by preliminary starvation, a liquid or soft diet, alkalies, fatty foods, bromides and atropine, attempts to decrease the mechanical and chemical irritative factors.

I shall next discuss briefly the physiological aspects of a few of the surgical procedures. *Partial gastrectomy:* Some surgeons resect the pyloric antrum and a considerable portion of the fundus because as they state, they remove acid secreting mucosa, the ulcer bearing area, control acidity, and obtain rapid emptying of the stomach. This is obviously an unphysiological procedure. It is true that such a procedure permanently increases the rate of emptying of the stomach and controls the acidity temporarily in all patients, but permanently only in a few. The rapid emptying in some patients causes uncomfortable sensations on eating due to overdistention of the bowel. In a varying percentage of patients, jejunal ulcer occurs.

In the dog Strauss, Fauley and Ivy have found that marked hypertrophy of the gastric remnant may occur when from two-thirds to three-fourths of the stomach is removed, acid returns to almost normal in three to five months and jejunal ulcer results in twenty-five per cent of such cases. It was found that the hypertrophy of the stomach was due to rapid eating of large quantities of food.

If the dogs ate slowly for three to six hours, hypertrophy did not occur. Partial gastrectomy obviously reduces the factor of safety in digestion. The future only will reveal the effect which this procedure may have on hematopoiesis.

Gastro-jejunostomy: Our work and contemplation of physiological facts shows that it is unphysiological to cause the gastric contents to empty into the jejunum. The jejunal mucosa is more sensitive to the gastric contents than the duodenal mucosa, and one is not surprised that jejunal ulcer occurs in from five to twenty-five per cent of these patients. On this basis a pyloroplasty would be preferable. But a pyloroplasty is difficult to perform in man, particularly in the presence of inflammation and adhesions, and it is reported that such patients suffer more distress post operatively than gastro-enterostomy patients. Of course, the duodenum is sensitive to over distention caused by a rapidly emptying stomach. The duodenum is even more sensitive to over distention than the jejunum. Further, in doing a pyloroplasty for a duodenal ulcer or ulcer at the outlet, even though the ulcer is excised, the surgeon is by necessity working with and suturing pathological tissues. So one is not surprised that most surgeons prefer to perform a gastro-jejunostomy, even though from three to twenty-five per cent later develop a jejunal ulcer or even though a larger percentage are uncomfortable with the gastro-jejunostomy. I shall not discuss the relative merits of local excision, cauterization and other surgical procedures for lack of time.

I am not criticising the surgeons. I know that some types of plastic operations on the stomach are absolutely necessary in the presence of a high-grade organic stenosis and certain other gastric pathology. I simply am trying to emphasize the fact that we do not have an ideal or a physiological operative procedure for the "cure" of gastric or duodenal ulcer. And, in my opinion, it matters not what kind of an operation is done—the patient must be instructed and observed in regard to diet, environment and eating habits.

Dr. Mensing of Milwaukee has told me of the method of jejunostomy which he is using in ulcer patients that cannot be controlled by medical management. His method is analogous to the method of feeding by duodenal tube employed by some gastro-enterologists. Such a method comes nearer to placing the stomach at physiological rest than any other method. The continuous feeding via a jejunostomy or a duodenal tube inserted into the jejunum reduces the motor function of the stomach to a minimum. We have demonstrated this recently in a dog. The feeding must be performed slowly and continuously, however. Gastric juice is still secreted because food in the intestine stimulates gastric secretion. But gastric secretion is at low ebb. A suitable pabulum is required, one that does not cause diarrhoea and distress. We have found such a pabulum. We have a dog which has been maintained solely on this pabulum via jejunal fistula for over thirteen months. If jejunal feeding is persisted in for several weeks, the ulcer may heal, or at least much of the inflammation will have disappeared, and an operation for organic stenosis, if necessary, can be performed under more advantageous conditions. This method is of value in treating inoperable cases of carcinoma of the stomach.

I grant that there are a number of arguments against such a procedure. The chief one is, I believe, the necessity of several weeks of hospitalization. However, this is frequently recommended when any treatment is used.

The most commonly employed medical treatment at the present time is the Sippy management or some modification of it, the principles of such treatment being a liquid or bland diet rich in fat, fed at frequent intervals, plus the use of alkalinizing powders. This regime certainly does not place the stomach and duodenum at rest, but does tend to decrease the mechanical and chemical irritative factors.

It is true that a liquid or semi-fluid diet will tend to leave the stomach faster. It is also true that the undigested fat in the cream or olive oil employed will in-

hibit tonic motility and increase the flow of the alkalinizing secretions, bile and pancreatic juice. But, the digested products of fat in the intestine stimulate gastric secretion. This is one reason why the therapeutic aspiration at 11:00 p. m. or 1:00 a. m. at night reveals much acid.

The alkalies, although they neutralize the acid of the gastric juice, frequently stimulate gastric secretion and disturb the chemistry of the gastro-intestinal tract and body. The alkalies decrease tonic motility and spasms and tend to prevent gastric retention. Without question the relatively huge doses of alkaline powders used are unphysiological.

It was because of the unphysiological nature of the use of alkalies in the treatment of ulcer that Dr. Fogelson started out to find a more physiological procedure or substance. He knew that mucus in general played a protective role, that gastric mucin played a role in neutralizing gastric juice, that gastric juice applied to the pyloric mucosa increased the secretion of mucus, and that the action of pepsin on mucus increased its neutralizing power. He set out first to find procedures which would cause the stomach to secrete more mucus, but failed to augment definitely the secretion of mucus. He then decided to make a preparation of gastric mucin and feed it. He found that he could prepare from the gastric mucosa a powder rich in mucin which would combine with considerable free acid. One gram of the powder would combine with from 12 to 18 c.c. of N/10 HCl at a pH of 4.5. It was found that if sufficient quantities of mucin were given to man or dog, all the free acid secreted by the stomach in response to a meal or to histamine could be neutralized without causing gastro-intestinal disturbance. This powder has been given to intractible gastric ulcer patients with excellent results. Five cases of jejunal ulcer following gastro-enterostomy have been controlled perfectly for a number of months. And we have found recently that the feeding of mucin prevents the development of ulcers in biliary fistula dogs and reduces the incidence of other types of experimentally produced ulcers.

Gastric mucin is an ideal ant-acid in that (1) it is a physiological substance, (2) it combines with considerable free acid, (3) it does not cause gastro-intestinal disturbances, and (4) it does not change body chemistry. I believe on the basis of the work of Ferguson that mucin does more than to combine with acid—it forms a protective coating over the base of the ulcer. Also it is known that the mucous glands of the jejunum in the region of the orifice of the gastro-enterostomy undergo hyperplasia and hypertrophy in an attempt to combat irritation. The administration of gastric mucin simply assists this natural protective process or reaction.

We have reason to hope that gastric mucin may replace to a large extent the use of alkalies in the treatment of peptic ulcer and may render unnecessary certain operations that are now being performed for this condition. It will take time, of course, to establish definitely and to evaluate the clinical value of this new therapeutic agent.

The Sac of Inguinal and Crural Hernia from an Historical and Operative Point of View.

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Read before the Sedgwick County Medical Society, September 8, 1931.

The history of inguinal hernia constitutes one of the most intensely interesting chapters in the charming story of the development of surgery. Indeed, there is an absorbing fascination in tracing the development of the subject, step by step, along through the misty ages up to its present stage of near perfection. Certainly the human mind has been slow to unfold, and the progress of science has been slow indeed, for it has required the full time from the age of Augustus Caesar to our own day to discover the anatomical principles upon which the operation for hernia is founded.

A review of the subject discloses the fact that the surgical mind from Celsus in the age of Augustus, to Bassini in our own day, was unalterably concentrated upon the sac as the important if not the only structure to be taken into consideration for the cure of inguinal hernia.

All operative measures devised by the

ancient and the medieval surgeons for the relief of hernia contemplated some means for the modification or obliteration of the sac.

The evolution has been characterized throughout by alternate periods of progress and retrogression. All methods falling short of success, frequent changes were made in the effort to establish some fully efficient orthodox plan for the cure of hernia. The entire history of the surgery for rupture is bespangled with the various and sundry methods of dealing with the sac.

Notwithstanding the lack of anatomical principles brought to bear in these ancient operations, evidently occasional successes were not wanting. It is beyond our comprehension how century after century could come and go for almost two milleniums without some one being able to stumble upon the correct principles involved in the cure of hernia. Failure cannot be attributed to lack of effort, for every able surgeon lent his genius to the task of the elucidation of the subject, much the same as the profession of our own time is seeking the solution of the cancer question.

The methods employed by the ancients in the management of hernia, with minor modifications, prevailed until comparatively recent times. From Morgani's time on, hernia began to receive rational consideration based upon anatomical facts. However, real progress was initiated by the works of Scarpa, Arnaud, Cloquet, Hesselbach, Gimbernat, Heister, Percival Pott, Cooper, Lawrence and others of their contemporaries. Of these great men Lawrence was the first to contend that other factors than the sac must be taken into consideration in planning an operation for the cure of hernia. He insisted that the tendinous opening must also be obliterated, but it does not appear that he nor any of his contemporaries ever put the idea into practice. Almost another century was wasted in crude methods of dealing with the sac before Bassini, putting Lawrence's suggestions into practice devised a procedure for the obliteration of the musculotendinous hiatus as an adjuvant to the removal of the sac. Since the time of Bassini many others have contributed useful features to our knowledge of the subject, among whom worthy to be mentioned are Duplay, Kocher, Ferguson, McEwen, each of whom has added certain refinements to the operation for the cure of inguinal and crural hernia.

I deem it interesting if not useful to pass in review the various methods of dealing with the hernial sac from the earliest times to the present day. Celsus, a leading surgeon in the age of Augustus Caesar, and Tiberius, opened the sac, divided the constriction at the neck, reduced the contents, ligatured the sac and the spermatic cord and excised the sac along with the testicle. According to another account the testicle was conserved. Celsus alludes to the practice of some of his contemporaries who, after cutting down upon the sac, opening and reducing the hernia, applied the actual cautery for the purpose of destroying the sac and closing the ring. Crude as this procedure may appear to us of this age, Celsus, whose ability is beyond question, looked upon it with favor. However, he advised that the method be reserved for robust patients only.

The methods by ligation and excision and that by destruction by the actual cautery in accordance with the inclination of the individual surgeon prevailed until the time of Paulus Aeginetae. Paulus added many refinements to the surgery of rupture, but like all his predecessors, recognized only the peritoneal process or the sac as a cause of the infirmity and therefore sought its annihilation as a cure. He cut down upon the herniated mass, opened the sac, reduced the contents, dissected up the sac, and placed a ligature at the neck and excised the distal portion and conserved the gland. This was a very decided improvement over all of the methods which had been in vogue before his day and probably yielded many cures. It must not be forgotten that operation was attempted only in the presence of incarceration or strangulation. Albucasis reverted to the practice of Celsus and revived the use of the actual cautery with the purpose of converting the empty sac into a solid eschar to effect obliteration

of the ring. Lanfranc was an enthusiast for the igneus method of dealing with the sac. He invented a siezing forcep with fenestrated blades to permit the application of the redhot iron without injury to the circumjacent tissues. In this manner the cord and the testicle were protected from the destructive effects of the heat. Guy de Chauliac was another ardent advocate of the actual cautery in dealing with the sac in his operation for inguinal hernia. So strong was his faith in the virtues of redhot iron that he counseled repeated applications with the purpose of destroying every vestige of sac. This author reported many cases wherein by this procedure the cord and the testicle were successfully conserved. Rosset, whose activities included the year 1559 revived the methods of Celsus. He proceeded by cutting down upon the mass, opening the sac, replacing the contents within the peritoneal cavity ligating at the neck and removing the distal portion of the process followed by suturing up the wound carefully. The extraordinary skill and ability of Rosset apparently enabled him to dominate the surgical policies of his time. Thus he was able to collect and report many cases operated by himself and his colleagues which resulted in complete cures.

Severinus was an advocate of the actual cautery notwithstanding he insisted that much experience and sound judgment were required in order to succeed with the method and yet do no harm.

Claudinus adhered to the method by the actual cautery in the radical operation for the cure of femoral hernia. Evidently he was one who believed in repeated applications of the hot iron in order to produce crust upon crust to cause the skin to contract and leave a firm cicatrix. This was an age when the cautery was universally in vogue for the destruction of the hernial sac.

Heurneus spoke much upon the value of the hot iron in the cure of hernia when correctly applied.

Houstoun, writing in 1776, when apparently the cautery was being superceded by other methods in the effort to cure hernia, expressed much regret on account of the neglect of so valuable an agent for good. This is not to be wondered at when we remember that all surgical attempts to cure hernia had thus far been concentrated upon the sac. It must not be forgotten that very many genuine cures followed the cautery methods of the surgeons of antiquity. The sacrifice of the testicle in the operation for rupture ceased to be practiced with the reign of Constantine who forbade it in order to prevent the castration of boys for the purpose of procuring eunuchs for household servants to the rich. The act was made punishable by exile and by death if repeated.

The treatment by chemical caustics came now to be employed as a succedaneum to the actual cautery. The objective, of course, was the same as that sought by the employment of the actual cautery. The chief exponent of the caustic method was a physician named Little whose activities were during the reign of King George the First. He was money-minded, like the Chamberlains who devised the obstetric forceps, and kept his remedy secret until he was able to secure a royal grant of some five thousand pounds for making his remedy known. He simply substituted a chemical caustic agent for the actual cautery. The knife seems to have been dispensed with and his object was to create a firm and extensive eschar which would, by contraction obliterate the inguinal ring. This illogical method continued in vogue for a long period of time. It was extolled by many of the foremost surgeons of the age, including Scultetus, Lanfranc and many of their illustrious contemporaries. At last this seems to have proved to be a most objectionable procedure, for many disastrous results were recorded causing the practice to be abandoned.

Evidently the history of the treatment of hernia by the actual cautery has much more to its credit than has the method by chemical caustics. Still the surgical mind appeared to be centered exclusively upon the importance of the sac as the desideratum in the cure of inguinal and crural hernia. Now with the actual cautery and chemical caustics both in the discard the foundation for our modern methods were gradually being formed.

It was at this juncture that the various stitches for the obliteration of the sac were being devised. Here again a most fertile field was formed for the play of the surgeon's inventive genius. It seems that there is no limitation to the inventive ingenuity of the true surgical mind. The punctum aureum and the royal stitch now became the surgeon's beau ideal in his age-long effort to eradicate the hernial sac. The immortal pen of the beloved Percival Pott has graced the pages of surgical literature with a description of the punctum aureum. The bowel was evacuated by the exhibition of cathartics. The hernia was reduced. An incision was made to afford access to the prolongation of the peritoneum. A golden wire was made to encircle the hernial sac at the neck where the two ends were twisted together sufficiently to obliterate the canal without obstructing the circulation in the cord and the testicle. Leaden wire was substituted for the gold by some operators for economic reasons, while ordinary silk was used by others. The royal stitch was a procedure somewhat similar to the punctum aureum. The patient was prepared by purgation, the rupture was reduced, an incision about two inches in length was extended down to the cord which was dissected free from the surrounding structures. Beginning at the proximal end of the incision a continuous suture was passed first through the far wall of the wound around the process and out on the near side, and so on until the incision was closed, thus lifting the sac forward. The purpose of this maneuver was to close the sac and straighten the passage from the abdominal cavity into the scrotum. Ambroise Paré twisted a thin golden wire about the neck of the sac four times, using much care to avoid constricting the circulation. According to Arnaud, this method was originated by Bernault. The punctum aureum and the royal stitch with certain modifications constituted the orthodox practice of the French surgeons for a considerable space of time. Iron and lead wire were often substitutes for gold wire on the grounds of economy. Arnaud considered these methods as ingenious but refused to put them into practice. Serneecrus brought a method from Russia which had been devised especially for large hernia which could not be retained by bandages. An incision to expose the sac was made, the hernia reduced, the sac was then separated from the cord by careful dissection and ligatured with a flaxen thread as near the neck as possible, leaving the ends hanging from the wound to fall away spontaneously. The sac was divided and the distal portion removed. Heister recommended that the utmost caution be exercised in manipulating the adherent intestine. The walls of the bowel must be resected at the expense of any other tissue involved. Heister insisted upon opening the sac, inspecting the contents and effecting reduction before applying the ligature. This brings the subject down to 1708 when postoperative drainage was first employed and soon became the current practice among the Parisian surgeons. Dionis, who wrote upon hernia in the year 1708, recommended that the sac be opened, the neck dilated to facilitate reduction of the intestines. At the close of the operation the wound was completely filled with lint soaked in the yolk of egg and oil and left to be extruded spontaneously.

Subscribing to the teachings of Dionis and Vindenmanus Heister became an advocate of this practice. Petit, however, objected seriously to these methods, notwithstanding he thought it might be useful in the presence of infection and suppuration. This was the inception of our modern methods of drainage.

At this time it was the common practice to dress the wound with lint saturated in the spirits of wine. The dressings were removed after two or three days, the wound was washed with the spirits of wine and the vinous compresses reapplied. Down to the time of the emperor Constantine who was a Christian, the sac and the cord were often ligated together and the sac, cord and the gland were removed en masse. This practice though followed by many cures was interdicted by the emperor and made punishable by banishment of the operator. The edict of the ruler was

made for the purpose of doing away with the custom of castrating children in order to procure eunuchs for servants in the households of the rich.

The correct anatomical principles involved in hernia were first brought to light by Sir Astley Cooper, Scarpa, Cloquet. Notwithstanding these famous surgeons rarely resorted to operation excepting in the presence of strangulation. If the sac was opened it was simply cleared of blood clots without further disturbance. The stitches were passed through the skin only and pressure was relied upon to obliterate the sac. The stitches were removed in two or three days. The greatest care was taken not to penetrate the sac with the sutures. Lawrence in his edition on hernia placed great stress upon these rules of practice and insisted upon the danger attached to interference with the sac.

Langenbach and Schmucker were apparently the only surgeons of distinction of that age who practiced removal of the sac. Lawrence while attaching great importance to the obliteration of the sac in the operation for hernia felt convinced that much more was required to effect a cure. He wrote, "We want a remedy that will contract the tendinous opening, for while that remains preternaturally large, a new protrusion is highly probable."

Thus we see that after nearly two thousand years of groping, with the mind concentrated upon the sac as the sole factor in hernia at least one person arriving at a correct conception of the matter.

This paper deals only with the sac of hernia, and this reference to the observation of Lawrence is made simply to indicate when and who first recognized the importance of the musculo-tendinous factor in the production of hernia. This was an important epoch in the history of the surgery of hernia. The radical operation came to be advocated by Arnaud, Sharpe, Petit and Abernethy. For some inscrutable reason after the passing of these illustrious men the radical operation for hernia was almost given up and was allowed to pass into the hands of itinerent pretenders. A very few leading surgeons who were connected with large hospitals still continue to operate and then only in the presence of strangulation.

The foundation for the rational procedure for the cure of hernia rests upon the works and teachings of such men as Cooper, Cloquet, Camper, Scarpa, Arnaud, Heister, Gimbernat, Pott, Lawrence and a host of other equally laborious delvers into the field of surgical science, notwithstanding not one of these was able to profit by the results of his own discoveries and all still continued to attach the sac after his own method, too often crude and barbarous and fraught with much danger to the patient.

The various methods of dealing with the sac in vogue from this time to that of Bassini are too numerous and complicated to permit of description in this paper. Bennett of Lyon transfixed the sac with a series of pins such as were used in harelip and twisted them in a way to close the sac. Gerdy applied ammonia to a small area of the skin of the scrotum until inflammation took place, after which the inflamed area was inverted into the inguinal canal, hoping thereby to effect a permanent obliteration. Wutzer of Bonn improved upon the procedure of Gerdy for the invagination of the sac by means of a needle and canula, both of which were left in situ for a week or ten days. Velpeau inverted the sac and scarified the pillars of the ring with a special instrument for the purpose. His method was repeated by many others. Even the seton was employed by some surgeons for the obliteration of the hernial sac.

Mr. Hey, an able and justly famous surgeon of a hundred and fifty years ago, operated for strangulated hernia by simple division of the constricting ring without exploring the sac. He operated upon five cases in this manner with three fatalities. Others opened the sac after division of the stricture at the outer side of the ring. Dupuytren opened the sac and reduced the contents into the peritoneal cavity.

Apparently these authors made no attempt to obliterate the sac. Wutzer's device for closing of the sac consisted of a

pin and two pieces of wood, the one a small cylinder and the other a groved piece to fit over the cylinder. The scrotum was forced into the canal with the index finger which was withdrawn and replaced by the cylindrical piece of wood. The scrotum was then transfixed by the pin. The grooved piece of wood was then laid along the inguinal canal and fastened to the cylindrical piece with a screw. This treatment was rarely attended by success.

Woods' procedure was far more logical and in his hands yielded many cures. He incised the skin and fascia of the scrotum and with the index finger forced the sac up into the ring. Then with a needle of his own design a wire suture was carried up through the sac and pillars of the ring including some fibers of the conjoined tendon and back again, so that when the two ends were drawn upon and fastened together the ring was closed and the tendinous opening was, with the same movement, narrowed to a considerable extent. The procedure was entirely subcutaneous. This method was adopted by many surgeons and was much in vogue up until the era of open surgery was inaugurated. Holthaus, as late as 1870, was an advocate of the seton. Dr. Riggs counseled the use of a seton composed of a number of silken threads introduced subcutaneously with a needle of special design and allowed to remain for ten days or more.

Velpeau operated several times by opening the sac, reducing the hernia, and following by the application of the tincture of iodine to the endothelial layer. This method proved unsuccessful and was soon given up.

Dr. Pancoast of Philadelphia injected tincture of iodine directly into the sac. He treated some thirteen cases by this method with benefit to all and no return of the hernia in any case. Dr. Pancoast experimented with the tincture of cantharides as a fluid for injection into the sac.

From the year 1854 to the year 1857 the method of dealing with the hernial sac by the injection of tincture of iodine was extensively practiced in Paris. Ricord, Nelaton, Bonnet, Donseau, Jobert and Maisonneuve were among those who practiced this method.

Dr. George Heaton of Boston, after much experimental work, instituted a treatment by injecting the sac with the fluid extract of Quercus Alba. Dr. Warren, also of Boston, modified this form of medication and the method of employment by limiting the injection into the pillars of the ring and around the sac only. Many hundreds of cases were treated in this manner.

During the 1850's the sac of inguinal and crural hernia came to be assaulted by many different forms of subcutaneous surgery. By far the most logical and at the same time the most efficient of these was that of Dr. John Wood of London, already mentioned. His procedure involved the introduction of a subcutaneous suture of wire in such a way as to close the external ring and effect a narrowing of the musculo-tendinous hiatus at the same time. This subcutaneous method proved to be another fertile field for the exercise of surgical inventive genius. Almost every surgeon during this era of subdermal chirurgery found an opportunity to devise a new procedure and his own special needle for the placement of a suture for the obliteration of the hernial sac.

This practice was in great vogue on both sides of the ocean, and continued for a long time, even until the establishment of the open methods and antisepsis. The method was adopted by such men as the elder Agnew of Philadelphia and Thomas Wood of Cincinnati both leading surgeons of their day.

Naturally great skill was acquired in the manipulation involved in this subcutaneous form of surgical effort with the object of obliterating the sac of hernia.

Subcutaneous surgery for hernia was now the order of the day and the surgical mind was still centered upon the sac as the prime factor even as much so as in the days of Celsus, Etius, and Orabasius who sought its destruction with the actual cautery.

Notwithstanding the ablest of the profession were devoted to these methods, cures were infrequent. With this subcutaneous and blind system of surgery

in full force it suddenly came to be realized that much more was required beside the simple closure of the sac to effect a cure of hernia. This was at the same time the initial age of open surgery and the buried absorbable suture, and asepsis and antisepsis in the management of wounds. Notwithstanding it was not yet the end of different methods of disposing of the sac. Most operators thought it quite sufficient to dissect up the sac, ligature the neck, divide below the ligature and drop the stump. Ball twisted the sac, placed it in the bottom of the wound and secured it with stitches. Stokes of Dublin followed the practice of Ball. McEwen of Glasgow dissected the sac free and converted it into a series of reduplications or folds by means of sutures, and placed the cushion-like mass in the bottom of the wound, to obviate the infundibuliform effect of simple ligation. Riesell dissected up the sac at the neck and ligated, leaving the empty distal portion undisturbed. Bishop of Manchester proceeded somewhat after the method of McEwen, converting the tissues into a cushion to be placed next to the peritoneum at the bottom of the wound. Koeler developed a peculiar method of handling the sac. After dissecting the sac free he cut away part of the distal portion then proceeded to slit up the proximal portion into four or five strips each of which he rolled up with the outer surface outward, securing each roll by stitches and dropping the whole into the depths of the wound. Bennet employed a modification of the McEwen principle. Kingcote of Salisbury converted the tissues into an internal pad. Joseph Bryant dissected the sac free and after splitting it into two parts quilted it into the margins of the muscular wound. Kocher's method was a distinct advance in the disposition and utilization of the sac for reinforcement of the tissues to diminish the chances of a new protrusion. The sac was dissected free and well up to the true neck. An aperture was then made in the aponeurosis of the external oblique and down through the muscle, emerging near the external ring through which a forcep was passed and made to grasp the sac after it had been twisted into a cord when it was drawn through and securely stitched over the aponeurosis.

The aperture in the fascia may be made just above the ring or at any other point where it may be desirable to use the sac for reinforcement of the structures. The sac may be thus employed to strengthen the attenuated fascia and spreading muscular structures in the obese, and so contribute to the obviation of a recurrence. The Kocher method lends itself in many ways toward the procurement of added security in herniotomy.

The method of Duplay has long been a favorite with me. I am opposed to the sacrifice of any tissues that may be utilized for the purpose of modifying or giving additional stability to the structure of the lower abdomen. There are certain features in the architecture of the inguinal region of the human which tend to facilitate the escape of the contents from within. First there is the natural vulnerability of the peritoneal tissues about the exit of the spermatic cord which may permit the pushing forward of an infundibular process. Thus if the peritoneal surface in this region be viewed from the posterior there will be observed three fossae known as the internal, middle and external. The internal fossa is situated between the Urachus and the obliterated hypogastric artery, the middle fossa lies between the obliterated hypogastric and the deep epigastric arteries, and the external fossa is external to the deep epigastric. The internal fossa is the largest of the three. The semilunar plica about the exit of the vasa deferentia is another vulnerable point. It is therefore selfevident that the weight of the intestine filled with heavy liquid contents tends to increase the depth of these natural depressions, separate the muscular fibers, carry forward prolongations of the peritoneum and ultimately produce hernia. It is not, however, the purpose of this paper to discuss any other factor concerning hernia save that of the sac alone. The preceding anatomical facts have been brought forward simply to illustrate some of the predisposing factors in the production of hernia and how they may

be overcome by a special disposition of the tissues of the sac. No tissue should be sacrificed that can in any way be of service in reinforcing or modifying conditions in the development of hernia.

Some thirty years ago Duplay placed before the profession a method of utilizing the hernial sac for the modification of some of the more important natural defects in the anatomy of the inguinal region. The sac is carefully dissected free with as little injury to the tissues concerned as possible. It is then seized at the extremity with two forceps, one on each side, spread and lifted up and split in two halves down to the neck. Then a needle carrying a No. 1 chromic catgut is passed through the hypertrophied neck, the two halves are passed one around the other and drawn as in tying a knot. The needle is passed through the knot and the ligature is tied. The maneuver is repeated, each time carrying the suture through the knot and tying as before, and so on until the entire sac is thus used up. The last knot must be stitched and firmly tied to prevent its undoing. Suturing must not constrict the circulation. The sac thus converted into a sort of braid is placed in the bottom of the wound with the apex directed toward the inner angle of the incision. It should then be pushed in deeply so as to raise the peritoneum in a manner to obliterate the fossae just described, thus deviating the force from within to a more resistent area.

I have been using this method ever since it was first made known by its author. No doubt the surgeon members of this society are well satisfied with their operations for hernia, but there are those in our profession who still contend that in most instances the operation is unjustifiable. The fitters of trusses are busy plying their trade. The laity look upon the operation with considerable lack of confidence. The prospective patient always asks, "Will I be free from pain, and will my hernia return?"

There can be no doubt that the public is beginning to manifest a wane of confidence in the efficacy of surgery as a cure for hernia. We see the long-forgotten treatment of hernia by the injection of irritating substances into the tissues about the ring now being revived and actually being put into practice. The trade is flooded with trusses of many designs. Every drug store maintains a room in the rear where the proprietor fits his clients with his favorite apparatus. This situation is to the scientific surgeon exactly what the optometrist is to the ophthalmologist.

There are those who contend that the truss alone is sufficient to cure three-fourths of the hernias in existence. We know that this is not true, but how may we be able to convince the public that it is not true?

Let us hope that our beneficent art is not again about to re-enter one of those periods of retrogression so characteristic of the history of the surgery for this universal affliction of mankind.

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TUBERCULOSIS ABSTRACTS

This year marks the fiftieth anniversary of the discovery of the tubercle bacillus by Koch. That event gave intelligence and direction to man's attempt to master his age-old enemy. During the past three decades, the fight has become an organized one. The decline in the death rate has shown consistent acceleration, though a decisive victory is not yet within grasp. At this fitting period in the movement, P. P. Jacobs, veteran tuberculosis worker, gives us a lucid statement of the present situation in his book, "The Control of Tuberculosis in the United States." To give a balanced picture of the contents of this tersely written volume on a very broad subject is impossible—a few highlights must suffice to suggest its general flavor.

PRESENT STATUS OF TUBERCULOSIS CONTROL

In 1889, Hermann Biggs, at the request of the Commissioner of Health of New York City, formulated a statement concerning the communicability of tuberculosis and outlining a plan of attack

against it. Indifference and antagonism greeted the plan, for Biggs was far ahead of his time. The Commissioner nevertheless issued a circular on "Contagious Consumption," and this marks the first step in the educational campaign. Four years later, Biggs' original report formed the nucleus of a more complete scheme. The struggle to secure its adoption was tedious but succeeded at last.

Briefly, the program recommended included (1) education of the public, (2) compulsory reporting of cases by public institutions and the recommendation that physicians report private cases, (3) home visitation of patients, (4) the provision by general hospitals of separate wards for tuberculous patients, (5) the provision of a "consumptive hospital," (6) the establishment of laboratory facilities. In time, other measures, such as public health nursing, clinic service, organization of voluntary associations, sanitary measures, etc., were added. The compulsory notification of tuberculosis by all physicians and householders became law in 1897.

Meantime, Sir Robert Philip in Scotland was steadily establishing "The Edinburgh Anti-Tuberculosis Scheme," first proposed in 1887. His plan emphasized the need of searching out cases at home and pivoted about the out-patient departments of hospitals. This gave the movement in Great Britain a somewhat different trend but also influenced American thought. In the United States, the campaign was characterized by the participation of non-official agencies. Well organized health departments were few; there was need for leadership. The first voluntary organization was the Pennsylvania Tuberculosis Society, founded in 1892. Others followed, and in 1904 the National Tuberculosis Association came into being with Trudeau as its first president. The Sixth International Congress on Tuberculosis, held in Washington in 1908, crystalized opinion and unified the several efforts into a nationwide movement.

Methods of Control—Part II of the book describes the methods employed in the control of tuberculosis. The most important premise of the founders was that an enlightened public opinion is essential in any scheme of tuberculosis control, and further that sound knowledge about the disease is the individual's chief protection. The keynote, therefore, was education. Early efforts in this direction were naturally somewhat awkward but soon became surprisingly effective. With experience has come the conviction that the process of stirring the people out of their lethargy and enlightening them, vaguely expressed in the magic word, "education," depends upon certain techniques of publicity and organization.

The molding of public opinion, the establishment of control machinery, the maintenance of treatment facilities and so on, involve procedures which are today fairly well standardized. Separate chapters of Part II deal individually with these methods. A few chapter headings will serve as examples: Adult Health Education; The Spoken Word; Child Health Education; Case Finding; Statistics and Surveys; Fund Raising.

Scientific Basis of Control—Part III addresses itself to the fundamental policies of the tuberculosis movement in the United States, one chapter of which deals with the scientific basis of the program of action. New discoveries have gradually influenced the movement. For example, at first little distinction was made between minute or gradual dosage of tubercle bacilli and massive dosage. Many fondly hoped that it was possible to control infection by such measures as those directed against spitting. Modern conceptions of infection have greatly modified this hypothesis.

The first postulate accepted today is that the tubercle bacillus, the sole direct cause of tuberculosis, is passed from man to man and from cattle to man. It is conceded that at least 90 per cent of infection is transmitted directly from one human being to another by sneezing, coughing, kissing, etc., and by direct contact with moist or dried tuberculous sputum. Dust-borne infection is probably of minor consequence.

The prevalence of infection rises gradually from infancy until at adult life it may include some 80 to 95 per cent of

the adult population. Morbidity or actual disease, however, is relatively very low. A long interval usually elapses between infection and the manifestations of disease, but these are not uncommonly precipitated by collateral events in the life of the individual. The ultimate suppression of tuberculosis is held by some to be a possibility.

The events leading to disease follow a fairly definite sequence. The influence of heredity has been discarded, but the infant born in a tuberculous *milieu* can hadrly escape severe infection. Casual contact accounts for most cases of milder infection. The first infection, if severe (but not severe enough to cause immediate death) usually expresses itself in a primary focus, small or large, with involvement of the tracheobronchial lymph nodes. Concomitantly, allergy or sensitization is established. This physiologic-pathological complex is designated as childhood type of tuberculosis. The early pathology may disappear beyond recognition or it may remain latent many years, evidencing itself only by *x*-ray shadows. Very frequently, reinfection takes place in early adult life and, favored by circumstances that tax the resisting powers of the individual, the adult type of disease, characterized by destruction of tissue may follow.

What of Immunity?—Whether infection will fortify the body against further inroads of the tubercle bacillus or predispose it to the adult type is dependent upon various circumstances and influences, some of which can be controlled. Acquired immunity is insufficient to protect the individual against disease if repeated doses or an extremely large dose of bacilli enter the body. The contributory factors of tuberculosis morbidity include anything and everything that adversely influence the health of man. Attempts to produce artificial immunity have not yet succeeded. At the present time, it seems unwise to extend the use of BCG, except for experimental purposes.

The treatment of tuberculosis is based on the assumption that rest, fresh air, good food, and freedom from worry, plus medical supervision, will bring about a natural process of healing. Climate has little, if any, specific value, but there is much to be said in favor of certain types of air conditions. Surgery and light are important adjuncts to the treatment.

On these general premises, the plan for preventing and controlling the disease is based. While alarm is expressed by some to the effect that the detuberculization of the population may produce a race of high susceptibility to tuberculosis, others hold that increased intelligence and eternal vigilance will protect against a recurring disastrous infection.

Part IV describes a number of illustrative programs and thus brings to a focus the general principles discussed in previous chapters. Throughout the book, the reader desiring special information is referred to original and pertinent sources with a discrimination born of the rich experience of the author.—*The Control of Tuberculosis in the United States, P. P. Jacobs, Ph.D.*

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Blood Picture in Six Hundred Cases of Goiter

According to Ina M. Richter, San Francisco (J.A.M.A., Oct. 10, 1931), congenital heart lesions are not uncommon, and they give rise to symptoms and physical disability, though to a far less degree than do rheumatic endocardial and myocardial lesions. The valvulitis characteristic of the rheumatic syndrome is not uncommon in a mild climate like that of San Francisco, but its manifestations are much less dramatic and its inception is far more insidious. Scarlet fever and diphtheria are apparently factors in the causation of organic cardiac disease, and the type of lesion found in these cases suggests the myocardial lesions of later life. A children's health center furnishes an opportunity for the study of the causation of functional murmurs.

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Wife (showing husband expensive fur coat)—"One really can't help but feel sorry for the poor thing that was skinned for this."

Husband—"I appreciate your sympathy."—London Tit-Bits.

Doctor: "So your folks are moving West. Going to settle out there?"

Patient's Boy: "Why—er—no. Guess we'll have things charged same as here."—Selected.

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PEPTIC ULCERS

The many urgent questions which arise in the treatment of ulcers of the stomach and duodenum have been a perennial source of dispute involving not merely internists and surgeons, but everyone who has tried to get at the fundamental principles concerned. That this state of affairs is not due to prejudice or to lack of acumen on the part of clinical investigators in the past must be clear to everyone. One must admit that there are inherent difficulties which set limits to what can be learned from clinical observation alone, and that in situations of this kind animal experimentation may be very helpful. This applies not only to questions of treatment, but to questions of etiology, symptoms, diagnosis, and prophylaxis as well.

Thus past observations have supplied us with many significant etiological facts in regard to peptic ulcer. The explanation of such facts, however, is not always obvious. Why should ulcer be uncommon in individuals under twenty years of age? Why should the acute, perforating type be more common in young women while the chronic type is more common in men? What are the constitutional and what are the local factors necessary to produce an ulcer? How is it possible for nervous, and even psychic, disorders to produce such lesions?

Similarly the facts of ulcer symptomatology call for explanation in terms of further facts. One might ask why some individuals should suffer so little from ulcers which are readily seen by *x*-ray or at operation, whether the associated pylorospasm is cause or effect, what is the significance of high or low acidities reported by the laboratory, why some patients should have continuous and others intermittent pain, and what is the cause of intermittent pain.

The questions which must be answered in working out a rational treatment, however, are more difficult than these A really powerful therapeutic agent has potentialities equally for good and for evil; this difficulty frequently stands in the way of a decisive answer to therapeutic problems. What are the effects of continual administration of alkalies? Is it true that glucose in rectal feedings is not only useless but harmful? When gastric rest is needed, is jejunal feeding feasible as an alternative to rectal and parenteral alimentation? When should one resort to surgery? What type of operation is best?

We raise these questions because we believe that they are being answered by recent investigations. It is now possible to produce ulcers in animals by a variety of methods. The initially acute ulcers can be converted in the chronic type by procedures which are very significant for prophylaxis. The abnormal physiologic states following various types of surgical operations can be studied in the greatest detail, as for instance the effect of total gastrectomy upon the blood picture. Such work supplies us with facts, even when their interpretation is not

immediately clear. Specific criticism of the experiment in hand will decide whether it is safe to extend the conclusions from animals to man.

For these reasons, some of the new work on gastric and duodenal ulcer is very interesting. One important development is the discovery of the antacid effects of mucin by Fogelson at the Northwestern University Medical School. This, with others of the questions mentioned above, are treated in the significant article by A. C. Ivy in the present number of this journal.

FOLKS

Members of the society have now had the opportunity of reviewing seven numbers of Folks, the popular health magazine established through official action of the house of delegates at the annual meeting in Manhattan last May. The name, Folks was suggested by Dr. McVey and given unanimous approval by the members of the Bureau of Public Relations which committee of the state society is responsible for its publication.

Prior to the first number, letters were mailed to all members of the society asking their support, moral and financial. This suggestion met with a favorable response from many, as ninety-three members forwarded checks in payment of from ten to twenty subscriptions totaling in all more than 1,000, while many others paid for a lesser number. One member paid for fifty subscriptions, while another, a physician in a state teachers college, was responsible for 218 subscriptions. One society paid for a year's subscription for each of the 137 grade school teachers in the county.

Folks has been well received by the lay readers since its publication was first undertaken. Many readers have made written comment on the valuable information they have received from the many articles. Numerous teachers have advised of the use of Folks for teaching purposes. Radio stations have read a number of the articles to their thousands of listeners.

The paid subscriptions at the present time are just short of the 4,000 mark. An additional 1,000 subscribers would place Folks on a self-sustaining basis. With additional subscribers, less difficulty would be experienced in securing advertising contracts. Additional advertising would allow an expansion of the magazine.

The purpose of Folks is to place in the hands of lay readers authoritative information in regard to disease and disease prevention. The subscription price for Folks, fifty cents for one year, is within reach of all.

Folks is deserving of the united support of each of the county medical societies and of each individual member of the society.

DUES

By-laws of the Kansas Medical and component county societies provide for payment of annual dues during the month of January. If payment is not made by February 1, the member is automatically suspended and therefore, is ineligible to take part in the programs or business meetings of his county or the state society. Any member suspended for non-payment of dues is restored to full membership on payment of all indebtedness. If dues are not paid by December 31, his name is dropped from the roster of the society and he must apply for membership in the same manner as though he were applying for the first time.

Secretaries of county societies should make every effort to collect dues within the period allowed, and members should co-operate in making prompt remittance.

Non-payment of dues is most frequently the result of carelessness or neglect and not because of a desire to lose membership in the organized medical profession of the state.

Prompt payment of 1932 dues in addition to membership in the county and state societies, provides for protection by the medical defense board; subscription to the two journals of the society and eligibility to participate in sessions of the county and state societies. Finally, membership in the American Medical Society is dependent upon membership in the state society.

If you have not paid your dues for the present year, you are not eligible to receive the benefits of membership. If you are in arrears, forward your dues immediately to the secretary of your county society.

ADVANTAGES OF TOXOID IN DIPHTHERIA PROPHYLAXIS

Walter T. Harrison, Surgeon, U. S. Public Health Service, Washington, D.C., (Journal A.P.H.A., January, 1932) summarizes the advantages of toxoid over toxin-antitoxin mixture as follows:

1. It is from 20 to 30 per cent more effective, even when only 2 doses are given.
2. It contains no serum or other animal protein likely to sensitize to a later therapeutic serum injection.
3. It is absolutely without local or general reaction in practically all children under 7 years of age. Reactions in older children and adults are only unpleasant, not dangerous.
4. It contains no free toxin.
5. It is more stable, retaining its effectiveness for a longer period, and it is not affected by freezing.

Physicians Licensed in December

According to the report of Dr. C. H. Ewing, Secretary of the Board of Medical Registration and Examination, twenty-six physicians were licensed to practice medicine at the semi-annual meeting held in Kansas City, December 8 and 9, 1931. Seven physicians were licensed following examination and nineteen by reciprocity with eleven states or endorsement by the National Board of Medical Examiners. Certificates were granted by examination to:

Rollin H. Smith, Kansas City General Hospital, Kansas City, Mo.

Wm. A. McGuire, General Hospital No. 2, Kansas City, Mo.

Edward J. Schulte, St. Margarets Hospital, Kansas City, Kan.

Floyd C. Taggart, 630 Kansas Avenue, Topeka, Kan.

William B. Scott, General Hospital No. 2, Kansas City, Mo.

Jno. J. Decker, Bell Memorial Hospital, Kansas City, Kan.

Herman J. Kloecker, St. Francis Hospital, Wichita, Kan.

By reciprocity:

Raymond J. Leiker, Ellinwood, Kan. (Missouri).

Arthur J. Revell, Scammon, Kan. (Missouri).

Wm. D. Harris, Des Moines, Iowa (Nebraska).

Robert H. Moore, Highland, Kan. (Nebraska).

Geo. L. Beatty, Scott City, Kan. (Oklahoma).

Anderson J. Chandler, Hutchinson, Kan. (Indiana).

Wm. M. Thomas, Leavenworth, Kan. (Tennessee).

Norman T. North, Florence, Kan. (Illinois).

Wm. R. Boyer, Pawnee City, Nebr. (Illinois).

Kerwin A. Fischer, Arkansas City, Kan. (Kentucky).

Lewis K. Zimmer, Lawrence, Kan. (Ohio).

Thomas D. Fitzgerald, Kansas City, Kan. (Missouri).

Lewis W. Angle, Kansas City, Kan. (Virginia).

Wm. Holwerda, Salina, Kan. (Illinois).

Claude P. Fryer, Hiawatha, Kan. (Washington).

Christian A. Hellwig, Wichita, Kan. (Illinois).

Harold V. Holter, Fort Scott, Kan. (Michigan).

Parker C. Hardin, Arkansas City, Kan., and Edward F. Steichen, Lenora, Kan., were licensed through endorsement by the National Board of Medical Examiners.

ABSTRACTS

William C. Menninger, M.D.

Errors in Cholecystography: Errors are most easily made in the normally functioning gall bladder. It is necessary to know the normal location of the gall bladder, recognizing that it varies in its position in various body types. An effort at diagnosis on the basis of deformity of the shadow of the gall bladder is the most dangerous source of error, many cases with a regular contour being found quite free at operation and an occasional gall bladder is buried in adhesions showing a perfectly smooth contour. Failure to diagnose stones must be charged to personal error, the most important factor being the use of technically perfect films; the slightest movement on the part of the patient will often entirely obscure the shadow. (Kirkland, B. R.: Sources of Error in Cholecystography. Proceedings of the Staff Meetings Mayo Clinic. 4:323-324. November 6, 1929.)

Quinidine Therapy of Cardiac Irregularities in Hyperthyroidism: Quinidine sulphate is seldom successful in the restoration of a normal rate of auricular fibrillation before operation and if it is it is likely to recur at the time of the operation. In the Cleveland Clinic all patients in whom fibrillation is present on the third post-operative day are given a test dose of quinidine. If no ill effects are noted they are then given five grains of quinidine sulphate every four hours, day and night for twenty-four hours. When the pulse becomes regular medication is discontinued. If no improvement is noted in twenty-four hours five grains are given every three hours for twenty-four hours, then every two hours for twenty-four hours. In sixteen cases where quinidine therapy was instituted during a period of from several weeks to several months following operation. The normal heart rhythm was restored in 60 per cent of the cases. A second series of 23 patients where quinidine was instituted promptly in the treatment, the normal rhythm was restored in 96 per cent. (Anderson, J. P.: Quinidine Therapy in the Treatment of Cardiac Irregularities Due to Hyperthyroidism. Annals of Internal Medicine 5:825-828. January 1932.)

Unfavorable Reactions to Protein (Fever) Therapy: The use of nonspecific protein therapy has been in use about twenty years in chronic infectious arthritis, diseases of the joints, skin and eyes, tertiary syphilis and in occlusive vascular disease. Hench reports the unusual reactions in approximately 10,000 injections given to a group of approximately 2,500 patients. He experienced twenty unusual reactions (0.2 per cent of the injections occurring in fourteen cases 0.5 per cent of the patients.) These reactions included acute and subacute appendicitis, cholecystitis, enteritis, pleurisy, pericarditis, iritis, glaucoma, adenitis, extensive vascular thrombosis, and renal insufficiency. Death occurred in three instances. The mechanism of these reactions results from stimulation of inflammatory foci of infectious origin, or inflammatory foci of noninfectious origin, or stimulation of latent diathetic phenomena. (Hench, Philip S.: Usual and Unusual Reactions to Protein (Fever) Therapy. Archives of Internal Medicine 49:1-25, January, 1932.)

Albuminuria in Young Men: In the examination of 20,000 male students at the University of Minnesota 5.32 per cent showed albumin in the urine of a single specimen. In 606 cases of albuminuria 66.2 per cent showed albumin on only one examination and only 6.5 per cent of this number gave evidence of what was probably kidney disease. These investigators conclude from their study that kidney disease is a rare condition in young adults. They found a marked relationship between albuminuria and frequent attacks of colds and a family history of kidney disease. They found no significant relationships between albuminuria and blood pressure or of tonsillitis or abnormal appearing tonsils. (Diehl, H. S. and McKinley, C. A.: Albuminuria in College Men. Archives of Internal Medicine, 49: 45-55, January, 1932.)

THE LABORATORY

J. L. Lattimore, M.D.

In establishing this page, it will be the policy to review each month, current topics of interest, relative to laboratory procedures, their interpretation and clinical application. From time to time, original papers will be presented. Many of the simple technical problems will also be discussed.

Leeuwenhoek, born in 1632 in Deft, Holland, was the first man to ever assemble a microscope and to discover bacteria. In his time, a janitor in the city hall, he was considered almost a lunatic. There may be some connection with this fact in this day of some of we microscope workers. Leeuwenhoek kept his secret of making microscopes until his death, at 91 years of age, then left the secret scribbled on a piece of paper. Further, he was the first man to discover that heat would kill bacteria. Following too heavy drinking, he had a habit of drinking large amounts of very hot coffee, so hot that it would sometimes blister his mouth. Examining material from between his teeth, he noticed that the bacteria from spaces between his front teeth would either be dead or greatly decreased in activity, while those from between his back teeth would be live and very motile.

Rose and Schaltner use a preservative of anhydrous sodium sulphate and sodium fluoride for blood, for chemical examination. Samples stored for 4 months to 1.5 years show no significant change. (J. Biol. Chem. 17:1931.)

Ralli and Shannon report upon the observation of dextrose tolerance test, for a five hour period, following the ingestion of 100 grams of dextrose:

1. In normal groups, height of sugar is reached in 5 minutes to one hour and returns to normal within 2 hours.
2. Mild diabetic group, height is reached from first to second hour and returns to normal in the third to fourth hour.
3. Moderately severe group, height was variable and the normal return was from four to five hours.
4. Severe group, height was variable and return to normal was delayed to full five hours or beyond. (Am. J. Med. Sc. 182:1931).

The Ascheim-Zondek test for pregnancy has many modifications. Probably the most accurate laboratory animal to use is the immature female white mouse, of less than three weeks of age and weighing from 5 to 8 grams. Most laboratories have considerable trouble in securing a suitable supply, as a result they use female, virgin rabbits, with one single injection of morning urine. This method has proven very dependable and gives an accuracy of more than 90 per cent.

A concerted effort is being made by several scientific bodies to establish the use of the international classification in blood grouping. It appears that there will be less confusion, when this is established. Equivalents of the four groups:

Jansky	I	II	III	IV
Moss	IV	II	III	I
International	O	A	B	AB

International O is the universal donor, O and A comprised approximately 90 per cent of all individuals.

O'Brien on a series of 218 cases of advanced senile cataract, observed a hyperglycemia in half the cases and feels that high concentration of the sugar in the blood may be a factor in the etiology of cataract.

In an editorial of the A.M.A. Journal of January 23, 1932, we are reminded of emotional glycosuria, with special reference to the burning up and excretion of sugar in athletic games. This fact, likely would be of use in the feeding of some carbohydrates to the player, during the game.

R

Council Meeting

The mid-winter meeting of the Council was held in the Huron building in Kansas City on Tuesday, January 5, 1932.

The meeting was called to order by the president, Dr. P. S. Mitchell at 10:30 a. m. Present: P. S. Mitchell, E. C. Duncan, Geo. M. Gray, O. P. Davis, J. T. Axtell, L. B. Spake, J. F. Gsell, I. B. Parker, C. H. Ewing, H. O. Hardesty,

W. F. Fee, C. C. Stillman and J. F. Hassig.

Dr. Duncan as retiring president made a short talk reviewing the work accomplished during his term of office.

The time and place of the next annual meeting of the Society was definitely decided to be Tuesday, Wednesday and Thursday, May 3, 4 and 5, 1932, in Kansas City. The House of Delegates will hold its first meeting on Tuesday, May 3, at 7:30 p. m. The secretaries complimentary luncheon will be held at 12:15 p. m. on Tuesday, May 3, in conjunction with a meeting of the Council. The second day of the meeting will be guest day and at least five addresses by distinguished speakers will be given. The first and last days will be used for papers by our own members, some of which will be on business and economic conditions. The remainder of the program was left in the hands of the president, secretary and program committee.

Dr. Hugh Wilkinson, Kansas City, Kansas, appeared before the meeting to discuss matters pertaining to the surgical care of crippled children coming under the supervision of our Crippled Children Commission. After explaining the nature of the work thoroughly, he then informed the Council that there was a rumor going the rounds that orthopedic surgeons from Kansas City, Missouri, were going to take care of the cases referred to hospitals in Kansas City, Kansas, and he introduced the following:

Resolved, That it is the request of the Council of the Kansas Medical Society that the Crippled Children Commission employ only residents of Kansas in the treatment of cases coming under its jurisdiction.

The resolution was unanimously adopted, and Dr. Duncan was authorized to select one or more doctors and take up the matter personally with Governor Woodring.

The revivification of the Shepherd-Towner Maternity and Infancy bills before the United States Congress was unanimously denounced and the secretary was instructed to so inform our senators and congressmen and solicit their support and influence against the bills. The Shoulder's Resolution as presented to the American Medical Association was favorably discussed.

The Council instructed the Secretary to accept dues hereafter only through the officers of regularly organized societies.

On motion the president named Drs. E. C. Duncan, J. F. Gsell and J. T. Axtell, a committee of three, to draw up resolutions concerning the deaths of Dr. W. E. McVey, editor of the Journal and Dr. L. W. Shannon, councilor of first district. They presented the following:

Whereas, Dr. W. E. McVey, late colleague, has departed from among us at the very height of his efficiency and usefulness in the state; and,

Whereas, His advice and counsel in all things pertaining to the Kansas Medical Society was eagerly sought and followed by his associates; and,

Whereas, We have no method whereby we can longer advise with him and express to him the esteem in which he is held.

Therefore, Be it resolved that the Council of the Kansas Medical Society extend to his bereaved family and to all his host of friends this tribute of respect for a departed brother.

Be it further resolved, This Resolution be spread upon the minutes of the Council, and that copies be sent to his surviving widow, Mrs. W. E. McVey, the Shawnee County Medical Society, the Topeka Capital, the Topeka State Journal, and the Kansas Medical Journal.

Whereas, Dr. L. W. Shannon, colleague and co-worker, having departed this life a premature martyr to the cause of medical progress; and,

Whereas, All who associated with him and knew him will mourn the loss of a kind and valued friend and a capable and conscientious counselor and physician; and,

Whereas, His untimely passing removes from active labor one of the most esteemed members of the medical profession of the state of Kansas.

Therefore, Be it resolved that the Council of the Kansas Medical Society

extend to his family its profound sympathy for the loss they have sustained.

Be it further resolved, That this Resolution be spread on the minutes of the Council and that copies be sent the family of the deceased, the Brown County World, the Brown County Medical Society, and the Kansas Medical Journal.

Dated at Kansas City, Kansas, this 5th day of January, A. D., 1932.

Council Kansas Medical Society.
Signed: E. C. Duncan,
J. F. Gsell,
J. T. Axtell,
Committee.

Dr. O. P. Davis, acting editor of the Journal and Folks, made the following financial reports:

Financial Report of the Journal of the Kansas Medical Society

Receipts and disbursements by the editor from May 1, 1931, to January 1, 1932:

RECEIPTS

Journal Advertising	$2,978.92	
Sales and Subscriptions	62.51	
Kansas Medical Society	2,000.00	
Other Sources	12.48	
		$5,053.91

EXPENDITURES

Printing of Journal	$1,737.00	
Stock and Stationery	583.50	
Salary and wages	1,582.00	
Postage	111.24	
Electrotypes	61.93	
Office Rent	187.50	
Drayage	5.25	
Miscellaneous	94.75	
		$4.363.17
		690.74
Journal deficit May 1, 1931		218.83
Journal Balance Jan. 1, 1932		471.91

Financial Statement of The Bureau of Public Relations of the Kansas Medical Society

May 1, 1931, to January 1, 1932:

RECEIPTS

Balance on hand May 1, 1931	501.48	
Received May 1, 1931 to Jan. 1, 1932	2,472.71	
		$2,974.19

EXPENDITURES

Salary and wages	820.00	
Postage	300.73	
Stationery	225.25	
Office Rent	162.50	
Printing "Folks"	972.36	
Desk and Table	55.00	
Advertising	99.93	
Stencils and Filing Trays	81.93	
Miscellaneous	21.64	
		$2,649.34
Balance on hand Jan. 1, 1932		324.85

Reports were accepted.

A vote of thanks was extended to Dr. O. P. Davis for his valuable services as editor during the past few months. Dr. Earle G. Brown was unanimously chosen editor to fill the vacancy caused by the death of Dr. W. E. McVey.

It was recommended that the Secretary write a letter to Miss Ruth Carlson, Secretary to the Editor, expressing our appreciation for her competent services.

The Secretary's expense account since May 8, amounting to $700.65, was allowed.

SUMMARY

Stenographer's Salary	$600.00
Stamps	60.00
Miscellaneous	40.65
	$700.65

Meeting adjourned.

J. F. Hassig, M.D., Secretary.

The Coming Meeting of the Medical Society of the Missouri Valley

The medical Society of the Missouri Valley will hold its annual meeting this year in Omaha, March 29, 30 and 31. Headquarters will be in the Hotel Fontenelle.

Those attending last year's meeting, held in Des Moines, proclaimed it as one of the most interesting of the many held by the Society since 1873. The program was well balanced and the entire proceedings well handled by the local committee.

The purpose of the Society is to bring to the physicians of the middle west a program such as would be attainable only by traveling some distance and with the outlay of much time and money. In other words, the Medical Society of the Missouri Valley brings to your backyard what you would travel far to get.

Societies with such purposes are becoming more popular and are enthusiastically supported by the physicians in whose territory they serve. Naturally it is only through large attendance that such organizations can prosper and hope to build the better meetings of tomorrow.

The Medical Society of the Missouri

Valley has made steady progress since its reorganization in 1928. Last year it was changed from the membership type of organization with yearly dues to one calling only for a registration fee of $5.00 for those attending the meetings.

This year's program is practically complete. Physicians representing different sections of the practice of medicine and country have accepted invitations to be with us. The next issue of this journal will contain the program.

Among those already having accepted invitations to address the Society are Drs. J. C. Bloodgood, Baltimore; F. Lahey, Boston; Loyal Davis, Chicago; Alvarez and Helmholtz, Rochester, Minn.; A. Kuntz, St. Louis, and Burt Shurly, Detroit.

Remember the above dates. Make this, if no other, the convention to be attended. It will be worth your while.

DEATHS

Vilas E. Lawrence, Ottawa, aged 76, died November 1, 1931, of cerebral arteriosclerosis. He graduated from University of Michigan Medical School, Ann Arbor, in 1883. He was a member of the Society.

Wellington A. Thomas, Mapleton, aged 72, died November 13, 1931, at Bell Memorial Hospital in Kansas City. He graduated from Eclectic Medical College of the City of New York in 1891. He was not a member of the Society.

Charles A. Ruggles, Stafford, aged 77, died November 24, 1931. He was not a member of the Society.

Benedict A. Spalding, Arkansas City, aged 32, died December 17, 1931, homicide by firearms. He graduated from University of Louisville School of Medicine in 1926. He was a member of the Society.

Eugene Smith, Lawrence, aged 84, died December 21, 1931, of myocardial degeneration. He graduated from Rush Medical College in 1876. He was not a member of the Society at the time of his death.

John Francis Costello, Howard, aged 79 years, died January 13, 1932, of senility. He graduated from Columbus Medical College in 1880. He was a member of the Society.

Sherrod W. Dutton, Ness City, aged 90, died January 3, 1932. He graduated from University of Louisville School of Medicine in 1865. He was not a member of the Society.

William J. Davies, State Registrar of Vital Statistics for the State Board of Health for the past eleven years, died at Christ's Hospital on January 23, 1932.

SOCIETIES

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met with the Clay County Dental Society January 13, 1932, at the Bonham Hotel, Clay Center, Kansas. This was our annual meeting with the dentists and the ladies of both fraternities were invited.

A seven o'clock dinner was served to forty-seven members and guests.

At 8:00 p. m. the meeting was called to order and the program was as follows:

Reading of minutes and business of the preceding meeting were dispensed with in order to give more time to the speakers.

Dr. W. A. Coston, Kansas City, Missouri, speaker for the dentists, gave "A Treatise on a Trip to South America," which was very interesting, instructive and at times poetical.

Dr. Homer A. Beal, Kansas City, Missouri, speaker for the physicians, presented a lecture on "Antrum Disease" from a dental and medical standpoint. The treatise was practical and the therapy suggested could be used by both the medical and dental profession. This paper was discussed by Drs. Diver, Smiley and Kosar.

The following guests were present: Dr. and Mrs. R. Lee Hoffman, Kansas City, Missouri; Dr. John Porter, Dr. and Mrs. Clarence Kosar, Concordia; and Mr. and Mrs. Frank McElroy, Clay Center.

On motion Dr. Beal was made an honorary member of the society.

Meeting adjourned at 10:00 p. m.

J. Leonard Dixon, M.D., Sec.-Treas.

MEADE-SEWARD COUNTIES MEDICAL SOCIETY

Meade-Seward Counties Medical Society met December 21, 1931, for transaction of business and election of officers. The following doctors were present: Geo. S. Smith, E. J. McCreight, E. Trekell, C. O. Mays, F. W. Huddleston, C. E. Phillips, A. L. Hilbig, W. T. Grove, and J. W. Hammel. Dr. Hammel was elected to membership at this meeting.

Officers elected for 1932 were: President, Dr. E. Trekell; vice president, Dr. E. J. McCreight; secretary-treasurer, Dr. A. L. Hilbig; delegate to annual meeting, Dr. E. J. McCreight; alternate, Dr. A. L. Hilbig.

Voted to meet monthly, the first meeting for 1932 to be January 21; Dr. W. T. Grove to give a paper on "Recent Developments in Eye, Ear, Nose and Throat Work."

The January meeting of the Meade-Seward Counties Medical Society was held Thursday evening, January 21, at the offices of Drs. Mays, Blackmer and Hilbig. Dr. W. T. Grove presented a very interesting paper on "Recent Developments in Eye, Ear, Nose and Throat Work."

The following doctors were present: W. T. Grove, Geo. S. Smith, E. Trekell, A. L. Hilbig, C. O. Mays, C. E. Phillips, and J. W. Hammel.

Next meeting of the society will be held on February 11 with a paper by Dr. J. W. Hammel.

E. Trekell, M.D., President.

MIAMI COUNTY MEDICAL SOCIETY

Miami County Medical Society met in regular session at the Jackson Hotel in Paola, January 12, where dinner was served to thirty-four members and guests.

After dinner Dr. Geo. Knappenberger of Kansas City, Missouri, spoke on "Diagnosis and Treatment of Peptic Ulcer;" Dr. John Ogilvie of Kansas City, Missouri, on "Cystic Diseases of the Breast," which was followed by general discussion, and clinic.

P. A. Petitt, M.D., Secretary.

MITCHELL COUNTY MEDICAL SOCIETY

The Mitchell County Medical Society was host to the Solomon Valley Medical Society January 13, 1932. Fifty-four responded to the invitation to an afternoon, dinner and evening program. The meeting was held at The Community Hospital where everyone was made comfortable in the lecture room and the large living room of the nurses' home. The ladies were entertained with bridge, shopping, and theater as they chose. The doctors were entertained by Dr. Lee Hoffman of Kansas City from four to six o'clock by a lecture on "The Significance of Blood in the Urine," illustrated by lantern slides. After dinner, held in the dining room of the hospital, Dr. Balyeat of Oklahoma City gave a most interesting lecture on allergic diseases, especially hay fever and asthma, with moving colored films, and lantern slides to illustrate his subject. Both speakers were unusually good and gave a very instructive talk. Those who heard them felt well repaid for facing winter weather and traveling over icy roads to attend the gathering.

Those present were: Dr. and Mrs. Hope, Hunter; Dr. and Mrs. Neptune, Sr., Dr. and Mrs. Dillingham, Dr. and Mrs. Neptune, Jr., Dr. Mowery, and Dr. Jenney, Salina; Dr. and Mrs. Schwaup, Dr. Miller, Dr. and Mrs. Nye, and Dr. and Mrs. Jim Henshall, Osborne; Dr. Dixon, Clay Center; Dr. and Mrs. Hodgson and daughter, Downs; Dr. Slavin, Dr. M. M. Madtson, Dr. and Mrs. Vallette, Dr. Spessard, Miss Mary Stover, Dr. and Mrs. Weltmer, Dr. and Mrs. Cook, Mrs. Marie James, Miss Lamping, Miss Norberg, Dr. Pickler, Dr. and Mrs. O'Brein, and Miss H. McGhee, Beloit; Dr. and Mrs. Berggren, Cawker City; Dr. and Mrs. Newton, and Dr. and Mrs. Palmer, Glasco; Dr. and Mrs. Plowman, Jewell City; Dr. and Mrs. Shaffer, Simpson, Dr. and Mrs. Balyeat, Oklahoma City; Dr. Lee Hoffman, Kansas City; Dr. and Mrs. Harvey, Minneapolis, and Dr. and Mrs. Bennett, Mankato.

Martha Madtson, M.D., Secretary.

WILSON COUNTY MEDICAL SOCIETY

It has been some time since we sent in

a report of the Wilson County Medical Society, but we have been holding regular meetings monthly since September.

At our December meeting, Dr. F. M. Wiley was elected president; Dr. O. D. Sharpe, vice president; Dr. E. C. Duncan, secretary and treasurer, and Dr. B. R. Riley, delegate to our state meeting.

At our meeting in January, the Shoulder resolution was discussed and the writer was appointed to explain the provisions of the resolution to the Legion posts in this county, and has made arrangements to do so within the next two weeks.

I wish to state that much interest is shown by prominent Legion members in the third district, and last night Dr. F. W. Shelton and myself addressed the Legion members at Independence, going into detail regarding the insurance provisions of the Shoulder resolution.

I am assured that the third district Legion posts will give us a hearing within the next six weeks.

Allen, Neosho, Wilson and Woodson counties have a joint meeting scheduled for Dr. Mitchell's home town—Iola—for February 4.

E. C. Duncan, M.D., Sec.-Treas.

LABETTE COUNTY MEDICAL SOCIETY

The regular meeting of the Labette County Medical Society was held in Parsons, Wednesday, January 27, 1932, with President R. L. von Treba in the chair. Those present were: Drs. E. von Treba, R. L. von Treba, Stevenson, Hill, Petty, Henson, Ball, Hay, Markham, Naramore, Ruble, McGinnis, Smith, Boardman, Parker, Morrow. Dr. Rothgob of Chetopa was a visitor.

Through the courtesy of Davis & Geck Co., who furnished the films, and W. H. Morris of the Electric Studio, Parsons, who projected them, the members enjoyed a motion picture entitled "Traumatic Surgery" which was quite interesting and instructive. A vote of appreciation was extended Mr. Morris and Davis & Geck Co.

The meeting adjourned on motion of the secretary.

M. C. Ruble, M.D., Secretary.

SHAWNEE COUNTY MEDICAL SOCIETY

The Shawnee County Medical Society held its regular monthly meeting at the Hotel Jayhawk, Topeka, on February 1. Dr. Walter H. Weidling presented an interesting paper on "Factors Influencing Maternal Mortality." The various members of the Society emphasized the importance of adequate maternal care. Preliminary plans were discussed to provide better care for indigent maternal cases.

A committee of three, consisting of Drs. Forrest L. Loveland, William C. Menninger and Earle G. Brown, was appointed by Dr. Bowen, president of the Society, to make arrangements for the March meeting. It is planned to have a dinner preceding this meeting at which Mr. William J. Burns of Detroit will be guest speaker.

Earle G. Brown, M.D., Sec'y.

American Board of Obstetrics and Gynecology

The next written examination of the American Board of Obstetrics and Gynecology will be held in nineteen different cities of the United States and Canada at 2 p.m. on Saturday, March 26, 1932. The general, oral and clinical, examination will be held in New Orleans on Tuesday, May 10, 1932, immediately preceding the meeting of the American Medical Association. Reduced railroad fares will be available. For detailed information and application blanks apply to the Secretary, Dr. Paul Titus, 1015 Highland Building, Pittsburgh, Pennsylvania.

Paul Titus, Secretary.

William J. Burns Addresses Shawnee County Medical Society March 7, 1932

William J. Burns, Executive Secretary of the Wayne County Medical Society, Detroit, Michigan, will be the guest speaker at the monthly meeting of the Shawnee County Medical Society to be held in Topeka on March 7. Mr. Burns will discuss the subject "Modern Functions of the County Medical Society." Visiting guests are welcome.

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SOME ANATOMICAL STUDIES IN OBLIQUE INGUINAL HERNIA*

L. V. Hill, M.D., Kansas City, Kan.

Hernia has been described by Deaver (Surgical Anatomy Vol. III, page 315) as "An extrusion of a viscus or part of a viscus, into or through the wall of its containing cavity." A protrusion of a viscus through the internal abdominal ring lateral to the inferior epigastric artery is known as an oblique inguinal hernia.

It may be complete or incomplete, depending on whether it traverses the entire inguinal canal or not. If complete it appears at the external inguinal ring and may descend into the scrotum.

Spontaneous abdominal herniae have a tendency to occur at places where vessels enter or leave in foetal or extra-uterine life and oblique inguinal herniae assume the course originally taken by the testicle in its descent from the abdomen.

It will be remembered that the testicle is originally a retroperitoneal abdominal organ and in its descent it pushes before it a pouch of peritoneum and evaginates ahead of this pouch the layers of the abdominal wall and derives from them certain coverings in its descent.

The transversalis fascia gives rise to the internal spermatic fascia, the internal oblique and transversalis the cremastive muscle and fascia and from the aponeurosis of the external oblique comes the external spermatic fascia. The superficial fascia and skin become the scrotum.

The region of the inguinal canal lies lateral to the rectus muscle and here the structures composing the wall are the peritoneum, preperitoneal fat, transversalis fascia, transversalis and internal oblique muscles and aponeuroses with their common tendon, the conjoined tendon, external oblique muscle, the superficial fascia in two layers and skin. These structures are evaginated by the testis to be followed in some instances later by oblique herniae.

The internal ring consists of a funnel shaped depression in the transversalis fascia where it ensheathes the cord as it leaves the abdomen. It lies about one-half inch above the mid-point of Poupart's ligament. The canal of which this is the entrance is the inguinal canal and it proceeds forward and somewhat downward to the external ring which is an evagination of the aponeurosis of the external oblique muscle between the two columns of the inter-columnar fascia one bundle of which attaches to the pecten pubis and the lower to the spine of the pubis. The length of the entire canal is about two inches. The inguinal canal lateral to the deep epigastric vessels is bounded behind by only the transversalis fascia, and in front not by the transversalis muscle but by the internal and external oblique. Its floor is Poupart's ligament, and its roof the arching fibres of the transversalis whose attachment to Poupart's ligament, is lateral to the internal ring. Peritoneum, preperitoneal fat and transversalis fascia are the only structures to be stretched in the production of an indirect inguinal hernia.

Herniae appearing medial to the deep epigastric vessels is direct inguinal hernia so the canal boundaries medial to this artery do not concern us here.

For the past seven years I have been dissecting normal and abnormal structures as they appear in an anatomical laboratory. Among the abnormalities studied were a number of inguinal herniae.

This was at first done because of its clinical interest in surgery but we became interested in the apparent strength

*From the Anatomical Laboratory of the Kansas City Western Dental Department of Lincoln and Lee University.

*Read before the Meeting of the Shawnee County Medical Society, Manhattan, Kan., May 5, 6 and 7, 1931.

of these sacs when pressure was applied on their abdominal surface while demonstrating to students.

It had been said by clinicians that hernial sacs became thickened because of the long duration of a hernia and because of truss pressure and as they also said that the sac consisted of a pouch of peritoneum, this thickened pouch should consist of thickened peritoneum, probably thinning out and becoming continuous with the parietal peritoneum in the region of the internal ring.

Anatomical text books tell us that oblique inguinal hernia consists of a pouch of peritoneum extending out from the internal abdominal ring which is an opening in the transversalis fascia through which the spermatic cord passes; that the peritoneal pouch pushes along the cord first acquiring the infundibuliform fascia surrounding the cord as a covering this fascia being common to both and each lying in the common sheath.

That as a hernia pushes downward its layers exclusive of the peritoneal sac (which is its only peculiarity) are common to both it and to the cord.

We were surprised to find the hernial sac to consist not only of a thickened peritoneal pouch but a separate pouch of much thicker fascial structures which was seen to be structurally continuous with the transversalis fascia in the region of the internal ring.

Looked at from the abdominal surface the transversalis fascia presented a double barreled appearance one opening passing into the infundibuliform sac surrounding the cord and the other being a distinct hernial sac surrounding the peritoneal sac peculiar to herniae.

This fascial sac was obviously the strongest and most competent portion; so a careful study of the retiring transversalis fascia was in order.

The transversalis fascia though having the same first name is not synonymous with the aponeurosis of the transversalis muscle, but lies beneath it as a separate layer.

The transversalis fascia is most obvious between Poupart's ligament below and the arching transversalis muscle, and the conjoined tendon above. Here it fills in the somewhat semi-lunar interval and is a thick and competent structure. Traced upward it attaches to the lower surface of the transversalis muscle and conjoined tendon, and above this level the fascia is loosely attached as a much thinner and attenuated layer on the under surface of the transversalis muscle. It lines the under surface of the diaphragm and posteriorly becomes continuous with the illiac fascia covering the psoas and illiacus.

It has been pointed out by anatomists that the transversalis fascia is one of the principal strength giving layers of the abdominal wall. It is not attached to the peritoneum but is separated from that structure by the preperitoneal fat. In abdominal incisions it is not found in the peritoneal layer but adherent to the transversalis and rectus abdominal muscles on their deep surfaces. A hernial sac having this fascia as one of its layers is therefore a strong sac.

A notable feature in our dissections has been in many cadavers with herniae, the absence of muscle fibres of the transversalis in the region of the internal abdominal ring and the consequently greater extent of the thickened lower portion of the transversalis fascia filling in the interval between the lower border of the muscle and the inguinal ligament. The importance of muscular closure of the internal ring in these instances is of course nil.

The explanation of the thin sac observed in many recent herniae is apparently to be found in the construction of the internal ring. The transversalis fascia is found in non-hernia cadavers to be much thinned out over a rounded area corresponding to the spermatic cord and one would judge that any relaxation giving rise to a protrusion would occur in this thinned out fascia rather than to give rise to dilitation and bulging of the fascia prolonged over the cord.

However this brings up a discussion that hernia are said to arise from the unobliterated tunicavaginalis testis lying of course within the infundibuliform fascia surrounding the cord. Our dissected cases did not so originate.

The existence of this double walled

sac suggests some rather obvious things about repair of these hernia.

First, both the peritoneal and transversalis fascial sacs should of course be obliterated. If the peritoneal sac is first isolated by incision through the transversalis layer, pulled down and ligated high it will retract easily, if, however both sacs are ligated without separation, retraction of the sac stump could not be expected to occur.

Second, if only the peritoneal sac is closed an early recurrence should probably be expected.

It will be remembered that the only structures in the posterior wall of the inguinal canal lateral to the epigastric artery is the transversalis fascia. So if its hernial pouch is not closed there is a defect which invites recurrence of the hernia.

PUBLIC HEALTH ORGANIZATION AND THE MEDICAL PROFESSION*

A. J. McLaughlin, M.D., Chicago

Medical Director United States Public Health Service

The development of present day practice of public health and preventive medicine is a glorious achievement. The major credit for this must go to physicians both for the research results and for the application of the knowledge of disease prevention thus secured. There are, of course, notable exceptions. Pasteur was a chemist and many research workers who discovered facts in preventive medicine were not physicians, but almost without exception the men who have brought order out of chaos and who have developed health departments to their present state of efficiency have been physicians. Not only were doctors responsible for the major part of the discoveries, but it was the doctor acting as health officer who applied this new knowledge, and developed the system of wholesale preventive medicine which is the chief objective of health departments today.

All this development of preventive medicine was the work of doctors as individuals interested in the possibilities of preventive medicine. Collective action by medical societies for developing preventive medicine was conspicuously absent until the past decade. The overwhelming majority of practicing physicians up to recent times did not practice preventive medicine. This was not their fault. They had been taught to care for the sick and injured and preventive medicine was not taught in our medical schools to undergraduates in an effective manner until the present decade.

Since 1900 preventive medicine has made rapid progress in health departments due to the vigorous efforts of health officers. The great unofficial health agencies by educational propaganda have insisted on prevention and the development of facilities for prevention rather than cure.

During these past three decades the practicing physicians have held to what they considered their primary duty of treating the sick and injured. They have been reluctant to establish clinics for examination of apparently healthy people or to immunize or vaccinate against disease except upon individual request. It was natural, therefore, that both official and unofficial health agencies, in their enthusiasm, and in the absence of facilities for early diagnosis, should establish clinics and create in the public mind by education a demand for protection against contagious disease by immunization and for the discovery and early correction of disease and defects.

Unofficial agencies and the great foundations devoted large sums of money for preventive work, educational and otherwise, and official health departments secured large appropriations for the prevention of diphtheria, typhoid fever, tuberculosis and later venereal disease.

As a result, practicing physicians saw all kinds of clinics develop and expand which seemed to be taking his patients away from him. In the past 40 years public health administration established both fixed and traveling clinics, conducted wholesale immunization campaigns and examinations for discovery of defects in school children. All of this is work that should be done by the prac-

*Read before the Annual Meeting of the Kansas Medical Society at Topeka, January 4, 1931.

ticing physician. The only excuse for the invasion of the physicians' field was that physicians, individually and collectively would not practice preventive medicine. No health officer could sit idly by, while children died; incipient tuberculosis became advanced and venereal disease ran rampant—when aggressive action, though wrong in principle as an invasion of the physicians' field, could prevent this unnecessary loss of life.

The gulf thus developed between the practitioners of preventive medicine and the practitioners of curative medicine should never have been created. It is now fortunately being bridged over and eliminated. Preventive medicine is now being taught to undergraduates in all Class A medical schools. Medical societies as collective units are preaching preventive medicine. The average practicing physician now recognizes preventive medicine as his job, and the more progressive ones concede it to be the more important part of their job.

Even with the amazing development of preventive medicine activities since 1900, the immunization campaigns, drives for early discovery of diseases and defects, pre-natal clinics, baby welfare stations, clinics for tuberculosis, venereal and other diseases, certain fundamental defects are apparent in our public health programs, which can only be corrected by the concerted effort of county medical societies properly organized, or by further expansion of state medicine into the doctors field.

I. MATERNITY AND INFANCY

Health departments and unofficial activities have secured results in reducing very greatly the infant mortality rate, but this reduction is almost entirely in children over one month old. The death rate for mothers and for babies under thirty days old still remains abnormally high. The only way in which this high rate for mothers and children under one month can be reduced is by better prenatal and obstetric care by physicians, who have had proper, adequate training in obstetrics and who have available expert consultant advice and lying-in hospital and clinic facilities. The ignorant midwife is responsible for much, but part of the blame attaches to physicians practicing obstetrics without adequate training or experience and who do not have access to expert advice or a lying-in clinic and hospital. To correct this is the job of the organized county medical society aided by the state medical society and the medical department of the University.

II. THE PRE-SCHOOL CHILD

Our greatest defect in public health work today is our failure to secure preventive work in the child from one to five years old. With all our clinics, splendid work by public health nurses, efforts of parent-teachers and other organizations, we have barely scratched the surface in this field. Preventive medicine in this age group can only reach its full possibilities through the initiative of the properly organized county medical society assuring the individual participation of all its members. The health department with this co-operation could thus secure the necessary preventive work in this age group, instead of waiting for school age when from three to five have been lost.

III. PREVENTIVE MEDICINE FOR THE ADOLESCENT ADULT

Here the great need is general practitioners who have knowledge of modern technique and equipment for early diagnosis in the ambulant stage and who have such equipment available for their use. It is too much to expect that they should have this equipment in their individual offices; but the equipment and apparatus should be readily available, within easy reach and freely used. Too often we find plain symptoms of gastric or duodenal ulcer treated for months by prescription for indigestion; incipient tuberculosis treated by prescription for months without diagnosis until it becomes moderately or far advanced; pathologic conditions of gall bladder or appendix without a Graham test or *x*-ray treated for months by prescription until some acute climax forces operation or causes sudden death; hyperthyroidism and hypothyroidism receiving perfunctory office treatment by prescription without basal metabolism tests;

treatment of female genital complaints by tampons or by guesswork surgery without *x*-ray after the use of dyes and many other conditions which receive office treatment without the use of modern diagnostic methods.

In the large cities and medical centers the diagnostic equipment is available and more likely to be used, and the general practitioner of 50 or more years of age is likely to have kept pace with the advances in diagnostic technique. In the small cities and towns and in the large rural areas, where the average age of physicians is 52 years, it is quite another story. If a man or woman not acutely ill asks for examination or treatment, the examination is perfunctory and incomplete. The campaign and propoganda for annual physical examinations of the apparently healthy fell far short of its possibilities, because in cities the examination costs too much or the applicant feared unknown cost, while in the small cities and towns and rural areas the facilities for complete examination did not exist.

FACTORS IN THE FAILURE OF ORGANIZED MEDICINE TO CORRECT THESE DEFECTS

(a) Lack of Organization

We speak of the organized medical profession, but its organization is little more than provision for periodic meetings for the reading and discussion of papers on scientific subjects. An exaggerated sense of ethics makes many physicians shrink from anything like business organizations; yet organization on a business basis, provision of clinic facilities, regulation of fees on a sliding-scale basis according to income are essential if state medicine is to be prevented. There are notable exceptions, for instance, the medical society of Kings County (Brooklyn), the New York Academy of Medicine, and the Wayne County (Detroit) Medical Society have taken steps toward business organization with a view toward social service, but, except these and a few others in large cities, county medical societies are unorganized except for periodic meetings for the presentation and discussion of scientific papers. The business side of their real obligation, to establish facilities for the best preventive medicine and surgical advice and treatment at a price that each citizen can afford, is entirely neglected.

(b) Cost of Medical Care

The best modern medical care is worth all you pay for it, provided you can afford the cost. The cost has not increased out of proportion to the costs of other services. Medical care, especially early diagnostic procedures and treatment, has been expanded and amplified by the discovery of more precise methods of diagnosis and has become exceedingly complex. This necessarily increases the cost of examination as compared with that of 40 years ago, when the physician used only his own senses and perhaps a stethoscope.

In the large cities the facilities for early diagnosis and for the best preventive medical and surgical care are available. The trouble here is that the man of moderate means does not know what it will cost; and fearing that the cost will be excessive, he avoids the doctor and the clinic and neglects himself and his family until serious illness or injury forces him to call a doctor. In the small cities, towns, and rural areas, lack of proper early preventive treatment is not due to the cost, but is due to the fact that the facilities for early diagnosis and treatment do not exist. I have seen many small cities with a small modern hospital approved by the American College of Surgeons but without an outpatient department. What does this mean? There is no provision for preventive medicine; a man must be knocked down by an automobile, have typhoid fever or pneumonia, in other words, be seriously injured or acutely ill before he comes in contact with the modern equipment of such a hospital. There must be a decentralization of modern equipment from the large cities and medical centers to the small cities and towns, and also a better distribution of young physicians who know how to use this equipment.

(c) Distribution of Doctors

While the problem in large cities is principally one of organization and adjustment of modern facilities which al-

ready exist, the problem in the small city, town, and rural area is the necessity for these facilities which do not now exist. Next to the need for out-patient facilities and modernly equipped clinics, the greatest need is for more and better trained physicians.

The young medical graduate of a Class A school today is trained in preventive medicine and is taught to use the modern instruments of precision in diagnosis. He learns to depend upon the modern facilities which are used in his college and hospital training. These are available in the city, and, hence, he stays in the large city. He will not go to the small town because these facilities do not exist and he can not practice medicine in the way he has been taught. Here again the remedy is obvious—there must be decentralization of modern diagnostic and treatment facilities from the large cities and medical centers to the small city.

In the distribution of young, highly trained graduates, the law of supply and demand is inoperative. Why? The reasons given above explain. The young physician would go to the small city or town where the demand for his services is greater, and the remuneration also greater, rather than practice in the keen competition of the city over-crowded with physicians, provided he could practice medicine in the modern way with modern factilities, which he considers indispensable.

REMEDIES SUGGESTED FOR CORRECTION OF THESE DEFECTS

(a) Organization of County Medical Societies and Decentralization of Modern Methods, Technique, and Equipment for Early Diagnosis and Treatment

It is not sufficient to have all facilities for the best preventive medical and surgical diagnosis, advice, and treatment available in the large city or medical centers of a state. The citizens living in small cities, in towns, or rural areas are, in common justice, entitled to the use of such facilities quite as much as the wealthy or the poor living in the large city or medical center. The county medical society should establish or cause to be established in the county seat and, in populous counties, in other small cities out-patient clinics completely equipped for early diagnosis and treatment. They should fix the fees on a sliding scale according to income—for example, dividing the clientele into three or more classes, as follows:

(1) The indigent to be paid for by the county at a fixed rate.

(2) Those earning less than $1,500 per annum to pay a minimum fee.

(3) Those earning from $1,600 to $2,400 per annum to pay a higher fee.

(4) Those earning over $2,400 per annum to pay full fees.

The fees for house or office visits should be determined for these same classes. The facilities for diagnosis or treatment of the out-patient clinic or hospital should be available for all members of the medical society and the fees collected divided pro rata.

(b) State Medicine

The term "State Medicine" is used here because it commonly signifies the bogey that continually confronts the practicing physician. State medicine means the assumption by the Government (Federal, State, or municipal) of the obligation to give every citizen or group of citizens medical and surgical care. In general, this would mean the state government; but the same results to the practicing physician are possible by the encroachments of private corporations which assume this obligation for their employees, using salaried physicians to do the work.

The advocates of state medicine have claimed that the defects noted above in our public-health activity would be corrected by state medicine, because medical and surgical and, presumably, preventive advice and treatment would be available to all citizens without cost. One must admit that, theoretically, under such a system, treatment would be available to all; but some doubt that there would be entire satisfaction with the quality of such medical care. The average American citizen feels that he is entitled to adequate treatment, and he has been educated to the point where he knows something of the newer methods and equipment used in modern diagnostics and treatment.

In presenting this paper there were in mind two objectives: The first concerns the practicing physician; the second concerns public health administration. I should like to see the medical profession solve its own problem in its own way without outside interference by governmental or any other agency. Proper organization of county medical societies will make state medicine impossible, enable the physician to retain his self-respect, and preserve that priceless, intimate, confidential relation that should exist between physician and patient. In regard to the second objective, more efficient public health administration, this same organization of county medical societies would also correct the defects in our public health activity cited above. It will make possible better lying-in facilities and better consultant advice for prenatal work. It will provide the machinery now lacking for early diagnosis and treatment of diseases or defects in the pre-school child and in adolescents and adults as well.

EPIDEMIOLOGY OF THE 1930 POLIOMYELITIS EPIDEMIC IN KANSAS

Earle G. Brown, M.D., Topeka, Kan.

Acute anterior poliomyelitis, erroneously called infantile paralysis, is an acute infectious disease, oftentimes difficult to differentiate in its early stages from any other of the acute infectious diseases of childhood. Apparently, the disease is increasing in prevalence in all parts of the civilized world. The name infantile paralysis is not only not descriptive but is misleading, for the reason that adults contract the disease and also because paralysis is not at all constant. Few diseases are known, which in so short a time, may completely destroy a useful life through permanent and hopeless crippling.

Case and death records of poliomyelitis are available for Kansas since the year 1908. In that year 100 cases were reported with 33 deaths, while in 1916, the year of the wide-spread epidemic in the United States, 120 cases were reported with 26 deaths. The high total number of cases, 694, was reported in 1930, as well as the high total number of deaths, 64. The previous high total number of cases, 196, was reported in each of the years 1910 and 1927, in which years 53 and 49 deaths, respectively, were recorded. The lowest case fatality rate, 9.1 per cent was recorded in 1930, and the previous low, 21.6, in 1916. Case reports, numbers of deaths, and case fatality rates are shown in Table I:

Table No. I

POLIOMYELITIS IN KANSAS

Year	Cases Reported	Deaths Reported	Case Fatality Rate
1908	100	33	30.0
1909	90	27	30.0
1910	196	53	27.0
1911	26	8	30.7
1912	70	23	32.8
1913	16	6	37.5
1914	26	13	50.0
1915	29	17	58.6
1916	120	26	21.6
1917	75	17	22.6
1918	30	12	40.0
1919	60	17	28.3
1920	26	8	30.7
1921	91	33	36.2
1922	23	20	86.9
1923	149	36	24.1
1924	28	12	42.8
1925	122	36	29.5
1926	66	20	30.3
1927	196	49	25.0
1928	40	9	22.5
1929	26	10	38.4
1930	694	64	9.1

A study of case reports of poliomyelitis by months in Kansas for the past ten years shows only occasional cases for the first six months of the year, with a definite increase beginning in early summer. The peak was reached in September in five of the years; in August in four years, and in 1929, six cases were reported in two months—September and October. These data are shown in Table II:

Table No. II

POLIOMYELITIS—CASE REPORTS BY MONTHS 1921-30

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1921	2	4	0	1	2	1	3	16	36	20	4	2	91
1922	5	2	0	0	1	1	1	6	4	1	1	1	23
1923	0	2	2	0	0	1	10	74	29	20	9	2	149
1924	3	2	1	3	2	0	1	4	8	2	0	2	28
1925	0	0	2	0	1	2	15	38	35	19	6	4	122
1926	2	1	2	0	1	3	3	13	22	13	3	3	66
1927	2	0	5	2	3	5	17	34	68	45	11	4	196
1928	3	1	4	1	1	0	3	14	9	3	1	0	40
1929	2	0	0	1	0	2	5	4	6	6	0	0	26
1930	2	2	1	0	1	2	39	185	272	161	25	4	694

During the five year period, 1926-30, 1,022 cases of acute anterior poliomyelitis were reported in the state, 603 males

and 419 females, males predominating in the reported cases in a ratio of six to four. Seventy-six and eight-tenths per cent of the total reported cases occurred in the age group under fifteen years of age. Among males, 73.5 per cent of cases were under fifteen, as compared with 81.7 per cent of females reported in the same age group. Of the males 29.2 per cent occurred in the age group 0-4 and 29.4 per cent in the age group 5-9 years. While 23.2 per cent of the reported cases were over fifteen years of age, 38.9 per cent of the deaths were reported in persons over fifteen. Among males, the larger per centage of deaths 22.3 per cent for any age group occurred in those 5-9 years, while in females the largest percentage, 26.5 per cent occurred in those under five. Percentage distribution of reported cases and deaths by sex and age groups are shown in Table III:

Table III

PERCENTAGE DISTRIBUTION OF POLIOMYELITIS CASES AND DEATHS BY SEX AND AGE GROUPS, 1926-30

	0-4	5-9	10-14	15-19	20-29	30-39	40-49	Ov. 50
Cases								
Total	31.5	28.5	16.8	12.2	7.0	1.5	1.5	0.6
Male	29.2	29.4	14.9	14.2	7.9	1.8	1.6	0.6
Female	34.9	27.2	19.6	9.3	5.7	1.1	1.4	0.5
Deaths								
Total	21.7	19.7	19.7	13.1	12.5	5.2	4.6	3.2
Male	19.4	22.3	19.4	15.5	12.6	3.8	4.8	1.9
Female	26.5	14.2	20.4	8.1	12.2	8.1	4.0	6.1

THE KANSAS EPIDEMIC OF 1930

There were 694 reported cases of poliomyelitis in Kansas in 1930, with 64 deaths. During the first six months but eight cases were reported, with date of onset and location by counties as follows:

1. Johnson ..... Jan. 11
2. Wyandotte ..... Jan. 22
3. Montgomery ..... Feb. 11
4. Douglas ..... Feb. 18
5. Crawford ..... March 2
6. Atchison ..... May 2
7. Shawnee ..... June 12
8. Greenwood ..... June 28

During the first six months of the year, single cases were reported from each of eight counties. In the three weeks period following June 30, cases were reported from twelve additional counties and from three counties which had reported cases during the first six months. In general, the trend of the location was from the southwest to the junction of highways US 54 and US 81. A tendency to scatter rather widely east and north followed, until by the end of September, when 272 additional cases had been reported, the great majority of the counties were represented by one or more reported cases. October had 161 cases, then came a rapid drop to twenty-five cases in November, and to four in December.

Counties from which no cases were reported included: Doniphan, Edwards, Elk, Ellis, Greeley, Hamilton, Haskell, Kearny, Lane, Meade, Morris, Phillips, Scott, Stafford, Stevens and Trego. Only three of these counties, Doniphan, Elk and Morris, are in the east half of the state.

In an attempt to secure complete case histories, questionnaires were mailed to each physician who reported cases of poliomyelitis after July 1. Five hundred of the 688 blanks were returned, from which the data we now present are abstracted.

Table IV.

POLIOMYELITIS, MULTIPLE CASES IN FAMILIES, KANSAS—1930

Case No.	Date of Onset	Sex	Age	Paralysis
47	August 14	M	16	Left leg
48	August 8	M	23	Both legs
67	September 26	M	18	Abortive
68	September 26	M	21	Both legs
120	September 24	F	13	Left arm, both legs
121	September 30	M	7	Left leg
124	October 7	F	8	Abortive
125	October 6	F	10	Right leg
132	October 14	M	24	Both legs
133	October 15	M	19	Both legs
189	September 13	M	8	Left leg
189a	September 20	F	10	Not stated
228	August 1	M	8	Chest (died)
229	July 27	F	18	Both arms, both legs
241	Not given	M	3	Right leg
241a	September 8	F	NS	Not stated
256	September 20	F	2	Right leg
257	September 26	F	4	Right leg
263	September 27	M	7	Bulbar (died)
264	September 29	F	9	Both arms, both legs
270	October 18	F	4	Not stated
271	October 29	M	21	Chest (died)
349	August 26	F	5	Right arm
350	August 29	M	8	Right arm
352	October 22	F	10	Left arm, right leg
353	November 3	M	11	Left arm
356	September 16	M	14	Abortive
357	September 12	F	11	Left leg
360	August 30	F	13	Both legs
361	August 30	M	10	Abortive
373	July 24	F	6	Right leg
374	August 1	M	10	Abortive
411	September 20	F	6	Right leg, left leg
412	Not given	F	8	Not stated
413	July 25	F	3	Right leg, left leg
414	July 22	M	8	Not stated (died)
423	September 26	F	11	Left leg
424	September 26	M	5	Right leg, left leg
425	September 19	M	14	Right leg, left leg

There were 452 cases reported in 433 families. In these families were 1,007

adults and 1,194 children, a total of 2,201 individuals. Records were not secured of the total number of persons comprising the families in forty-eight cases.

In only twenty-five cases was report made that there had been a known contact with an acute case. In twelve of these cases, report was made of contact with a member of the family having a definite paralytic case, while the source of contact of the other thirteen cases was not given. The source of infection, however, of eleven cases was attributed to exposure in another state, as follows: Missouri, 4; Colorado, 3; Oklahoma, 2, and Nebraska and Wisconsin, one each.

Multiple cases were reported in nineteen families, with one family having three cases. These data are shown in Table IV:

The majority of cases had the services of a physician quite early, he being called before the fourth day after onset in 316, or 67.2 per cent of 469 cases. These data are shown in Table V:

Table V

POLIOMYELITIS—ONSET TO VISIT OF PHYSICIAN

	Number	Per Cent
Same day	164	34.9
One day	94	20.0
Two days	58	12.3
Three days	41	8.7
Four days	34	7.2
Five days	25	5.3
Six days	16	3.4
Seven days	18	3.8
Eight days	8	1.7
Nine days	1	2.3
Ten days	2	
Eleven days	0	
Twelve days	0	
Thirteen days	2	
Fourteen days	3	
Over fifteen days	3	
Not stated	31	

According to reports of the attending physicians, 206 of 445 patients, or 46.2 per cent, went to bed on the same day as the occurrence of the onset of the disease. Only five of the patients were not confined to their bed at some stage of their illness. Data showing period of time elapsing from the time of onset until the patient went to bed is shown in Table VI:

Table VI

POLIOMYELITIS—FROM ONSET TO GOING TO BED

	Number	Per Cent
Same day	206	46.2
One day	80	17.9
Two days	55	12.3
Three days	29	6.5
Four days	25	5.6
Five days	19	4.2
Six days	9	2.0
Seven days	7	1.5
Eight days or over	10	3.8
Not in bed	5	1.1
Not stated	55	

For any one twenty-four hour period, the majority of cases developed their paralysis on the fourth day after onset. Report was made that forty-one cases, or 9.2 per cent did not have paralysis, and therefore, are classed as being of the abortive type. Occurrence of paralysis after onset is shown in Table VII:

Table VII

POLIOMYELITIS—ONSET TO TIME OF PARALYSIS

	Number	Per Cent
Same day	65	14.7
One day	15	3.3
Two days	79	17.8
Three days	105	23.7
Four days	63	14.2
Five days	28	6.3
Six days	14	3.1
Seven days	17	3.8
Eight days or over	14	3.1
No paralysis	41	9.2
Not stated	59	

The principal symptoms in order of importance are shown in Table VIII:

Table VIII

POLIOMYELITIS—OCCURRENCE OF SYMPTOMS

	Number	Per Cent
Temperature	487	98.9
Headache	372	76.2
Malaise	362	74.3
Stiff neck	360	73.9
Nauseau and vomiting	323	66.1
Anorexia	322	65.8
Constipation	228	46.9
Sore throat	180	36.8
Sound sensitive	178	36.8
Pain on swallowing	110	22.6
Disturbance of vision	100	20.7
Diarrhea	77	15.8

In only ten cases was report made of the absence of pain during the entire course of the disease. In 154 of the cases, or 24.0 per cent, the pain was general, while in 111 cases, or 24.5 per cent, pain was present in the neck, back and legs. The sites of pain are shown in Table IX:

Table IX

POLIOMYELITIS, LOCATION OF PAIN

	Number	Per Cent
Generalized	154	34.0
Neck, back and legs	111	24.5
Neck and back	65	14.3
Legs (1-r. leg, 2-l. leg)	35	7.7
Neck, back and arms	33	7.3
Arms (1-r. arm)	16	3.5
Arms and legs	11	2.4
Miscellaneous	17	3.7
Pain absent	10	2.2
Not stated	48	

The extreme difficulty in recognizing an attack of poliomyelitis without an accompanying paralysis is shown by the total of paralyzed cases in this series. Without doubt, many cases of true poliomyelitis occurred with symptoms so mild, so varied and so indefinite that the attending physician did not feel justified in making a positive diagnosis. These cases had only a slight indisposition, and made a rapid and uneventful recovery. Site of paralysis is shown in Table X:

Table X

POLIOMYELITIS, SITE OF PARALYSIS

Legs:	Number	Per Cent
Both legs	82	16.7
Right leg	66	13.4
Left leg	76	15.5
Arms:		
Both arms	9	1.8
Right arm	31	6.3
Left arm	16	3.2
Both arms, both legs	17	3.4
Left arm, left leg	19	3.8
Right arm, right leg	16	3.2
Right arm, both legs	10	2.0
Left arm, both legs	9	1.8
Right arm, left leg	8	1.6
Both arms, left leg	5	1.0
Left arm, right leg	3	0.6
Respiratory, bulbar	47	9.5
Throat	7	1.4
Both arms, right chest	4	0.8
Left leg, respiratory	4	0.8
Both legs, abdomen	2	0.4
Right arm, right leg, respiratory	2	0.4
Left arm, left leg, abdominal	2	0.4
Left leg, abdominal	2	0.4
Right arm, respiratory	2	0.4
Right foot	1	0.2
Right hand	1	0.2
Miscellaneous	8	1.6
No paralysis	41	
Not given	10	

Spinal punctures were reported in thirty-two cases. Number of cells was not given in eight cases, but in the remaining twenty-four the average cell count was 201. The counts ranged from five to 1,800. Counts in excess of 100 were reported in ten of the spinal fluids.

Tonsillectomies were reported as having been performed prior to onset in seventy-six cases and thirteen of these cases had fatal poliomyelitis. In the non-fatal cases, a total of sixty-three, eight were classed as abortive with complete recovery, while fifty developed paralysis, five of them reported as completely recovered.

According to the reports of cases, 138 patients received convalescent serum at some stage of the disease. Information as to the use of serum was not given in six cases.

Of the 138 cases receiving convalescent serum, 13, or 9.4 per cent resulted fatally, as compared with 51 deaths, or 14.3 per cent in the group which did not receive serum treatment. However, of the 125 non-fatal cases treated with convalescent serum, it was administered to but 60, or 48.0 per cent within 48 hours after onset. Of the 125 non-fatal cases receiving convalescent serum, regardless of the time of its administration, 20, or 16.0 per cent did not develop paralysis, as compared with but twelve, or 3.9 per cent of the 303 non-fatal cases not receiving serum treatment.

One hundred and eleven of the 500 cases were reported as completely recovered.

Quarantine measures as applied to the school children in Kansas City, Kansas, are best described by Dr. S. D. Henry, city health officer, as follows:

"The date of the quarantine as applied to school children was from September 27 to October 11, 1930. Our plan of quarantine proved to be very practical and successful. I believe that it has several new and novel features and I had intended writing a paper on the subject myself, but since you are interested, I believe it would be better for you to incorporate this information in your paper, since it will probably have a wider reading.

"When it was decided that quarantine was necessary, a conference was had with the board of education and a committee from the Chamber of Commerce. It was thought advisable that the quarantine should apply to all children under the age of sixteen and this statement was made at the meeting. Cooperation with the health department, of the board of

education and the Chamber of Commerce in establishing the quarantine, was asked, and full co-operation was given.

"As a first step, an emergency ordinance was passed, making it a misdemeanor punishable by fine, for any child under sixteen to appear on the streets or in any public place during the time of quarantine. The schools were closed —the ordinance applying to all grades up to and including the sophomore class of high school. The junior and senior classes in high schools and the junior college were not closed. Upon the closing of schools the teachers and principals received orders from the board of education that they were not to leave town; that they were to work with the health department in the control of the epidemic. Each teacher was required to visit once a week, each child in her room or grade, and to instruct the family in matters of prevention and hygiene. The teachers, were of course, instructed beforehand in these matters by the health officer. They were to report to the principal of the school, any suspicious illness or cases of evasion of quarantine, or violation of the quarantine ordinance. Every attempt was made to avoid unnecessary excitement and public panic. The principals reported directly to the health officer and where illness was found, or any disease indicated by the teacher on her visit, one of the school nurses or visiting nurses was sent to the family to investigate and report, if necessary, to the health officer.

"School janitors were deputized as special policemen and used to patrol streets in their district. Sanitary officers, working out of the health department, were directed to patrol the downtown streets and the chief of police issued an order to all patrolmen to see that the ordinance establishing the quarantine was not violated.

"So successful was the plan of having the teacher visit the child's home that the board of education has decided to adopt this plan as a means of having the teacher study the child's home-life, and once yearly, each teacher will be required to visit the child in his or her home.

"With reference to the value of the establishment of such a quarantine, I can only say this—that during the first week, after the establishment of the ordinance, only four cases were reported, and during the second week, no cases. The quarantine stayed on for two weeks and the epidemic, which had assumed serious proportions before, was promptly abated.

"As a matter of summary, I would say that the high points in our quarantine consisted of the following:

"First—an emergency ordinance, making it a misdemeanor for children under sixteen to appear on the streets or in any public place or conveyance.

"Second—instructions to the police force to see that the ordinance was enforced.

"Third—the use of school teachers to visit each home where school children resided and to instruct parents in matters of personal hygiene and the high points of the quarantine order.

"Fourth—the use of school janitors as special policemen to patrol their districts.

"Fifth—the co-operation of the Chamber of Commerce, in prohibiting the appearance of children in public houses, churches, theaters, etc.

"Two items of importance were the frequent use of the local radio stations by the health officer in health talks concerning the disease, and the use of the newspapers for similar purposes."

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TREATMENT OF POLIOMYELITIS

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Anterior poliomyelitis is a constitutional disease. At first it is manifested systemically and subsequently by disastrous effects on the central nervous system. Treatment must be considered then first, for the results of the systemic infection; and second, for the central nervous system infection.

As we outlined some years ago[12], there are three stages in the disease from the standpoint of treatment:

I. Acute Stage: Including the period of onset of fever, headache, intestinal disturbance, etc.

II. Convalescent Stage; Beginning with the appearance of the paralysis and covering the brief stationary period, the rapid improvement period, and the slower improvement period which supervenes.

III. Residual Stage; The paralysis and the resulting deformities.

Each of these stages has an entirely different treatment consideration.

TREATMENT OF THE ACUTE STAGE

The chief efforts of treatment in this stage are directed toward the prevention of invasion of the central nervous system and to counteract the effect of such an invasion. It is generally agreed that any availing treatment must be given before a paralysis is present. The difficulty arises, however, that a diagnosis is difficult to make before the appearance of paralysis and, in fact, many people doubt the diagnosis of the disease until paralysis does appear. Except in the face of an epidemic, undoubtedly many cases are missed entirely or else only diagnosed as such after the paralysis develops. Even in the many results of treatment reported in the literature, the objection has been raised that because so many so-called abortive cases are included in most series, there is no conclusive scientific evidence of the value of any sort of treatment secured by absolutely controlled experiments (Kellogg[11]). The family physician—the general practitioner nearly always sees these cases first: it usually falls upon him to make the diagnosis.

Fortunately one of our most definite diagnostic procedures is also a very worthwhile therapeutic measure, namely, the lumbar puncture.

1. LUMBAR PUNCTURE AND SPINAL FLUID DRAINAGE

In any suspicious case this is certainly an indicated procedure both for the diagnosis as well as the therapeutic effect. Repeatedly we have seen examples[12] of where the lumbar puncture has produced beneficial effects immediately and in the absence of any other therapeutic agents, we regard it as the most effective in the treatment of the acute stage. At least one attempt[14] has been made to statistically analyze the value of spinal drainage.

The beneficial result of the lumbar puncture results probably because of the decrease in the pressure and probably there is some theoretical advantage in withdrawing the katabolic products of the infection from the immediate contact with the brain and spinal cord. It has been our custom to do frequent spinal fluid drainages, removing 10 or 15 c.c. if the pressure is normal and if it is increased, withdrawing it until it is approximately normal.

It was some time ago suggested that epinephrin[10] be introduced into the spinal fluid canal at the time of the lumbar puncture, with the idea that it would cause a vasoconstriction and reduce pressure by the reduction of the edema. This, however, has a rather fleeting effect and a recent suggestion has been made to use ephedrin[4] for this purpose. This has been tried in a small series of cases in which the workers felt their patients were benefited and the mortality reduced. They used an average dilution of 50 milligrams of the drug and 5 c.c. of the fluid, or a concentration of about 1 per cent. In severe cases they advise giving two or more daily injections during the first few days.

2. SERUM TREATMENT

The serum treatment of this condition has become recognized as the most important, and probably the most effective means of combating the paralysis. Providing the diagnosis can be made in time, either the convalescent human serum or the immune horse serum seem to give beneficial results and should certainly be used if available. Each is worthy of separate discussion.

a. Human Serum:

In 1910 Flexner and Lewis[8] demonstrated that immune human serum could prevent development of this disease in monkeys if administered in the very early stages and intracerebrally. These

same workers demonstrated also that immune substances were present in convalescent human subjects, and on this basis a great many reports have been made of the treatment of poliomyelitis with convalescent human serum.

OBTAINING SERUM

Probably the most detailed description of the technique for the preparation of the convalescent serum has been given by Aycock, Luther, and Kramer.[2] In summary: the blood is withdrawn from the individual who has had the disease, not earlier than six weeks previously and may be used as late as twenty years after the attack. (Most authorities recommend that blood be drawn from an individual who has had the disease within the last four years but instances in the New York City Monograph[13] of the 1916 epidemic indicate that serum taken from ten to twenty years following an attack was apparently as effective as the recent serum.)

SEPARATION OF THE SERUM

The blood is incubated at 37 degrees C. for one hour to promote clot retraction and then placed in the ice box for 12 to 24 hours to allow the separation of the serum. It is centrifuged, aspirated from the clot, tested for sterility, and transferred to small sterile bottles and sealed. It may be preserved with 0.2 per cent tricresol. Such serums should be free from haemoglobin, red cells or any foreign matter and should be kept on ice until used.

ADMINISTRATION OF SERUM

As yet data is too inadequate to definitely state what should be the proper amount of serum administered. Likewise there is considerable controversy as to mode of administration. Any serum given must be given before the onset of paralysis during the febrile period, if it is to have any beneficial effects. After the paralysis has once developed, it is generally recognized that it is unavailing. Consequently there is rarely an opportunity to give more than one or two doses which can be reasonably assumed are efficacious. Draper[6] has recently indicated that one should do repeated lumbar punctures and that the ideal time to give treatment is at the time of the invasion of the nervous system.

In our own experience we have used both the intraspinal and the intravenous routes for administration. A regular lumbar puncture is performed, 15 to 20 c.c. of spinal fluid is withdrawn and then very slowly by gravity the warmed serum is introduced into the spinal canal. The dosage for a child is about 10 c.c. and for an adult from 20 to 25 c.c.. This is followed then by an intravenous injection of from 20 to 60 c.c. As yet this serum has not been standardized and consequently there is no quantitative measure regarding its effectiveness or reliability.

Some writers prefer one method of treatment to the exclusion of others. Aycock, Luther, and Kramer[2], Draper[5] and Amoss[1] use the combined intraspinal and intravenous method of treatment. Ayer[3] uses only the intraspinal administration, regarding it as being sufficient. Kellogg[11] regards the intraspinal route as safe and as effective but also uses both intramuscular and intravenous administration. Flexner and Stewart[9] believe that at least one intraspinal injection should be given at the earliest possible moment to insure an immediate flooding of the nervous tissues with antibodies.

REACTION TO THE SERUM

There are occasionally mild reactions which follow the administration of the human convalescent serum. Occasionally there is an increase in the elevation of the temperature from four to six hours later, perhaps an increase in the meningeal signs in the form of stiffness of the neck and presence of Kernig sign, restlessness and increase in back pains and in a few instances there is a chill with a sharp rise in temperature. Delayed reaction such as urticaria and arthritis have not been reported.

PROPHYLACTIC USE

Flexner and Stewart advocate the use of 10 c.c. for children and 20 c.c. for adults of the serum subcutaneously as an immunizing dose and recommend that this should be repeated after a period of from four to six weeks if the danger still continues. Such a view also is expressed

by Kellogg[11] and Draper[5].

b. Horse Serum:

There are two forms of horse serum which are available. Neustaedter[15], working in conjunction with the New York City Health Department began in 1916 the preparation of horse serum produced by the injection of a horse with trypsinized filtrates of cord and brain suspension of children who had died with poliomyelitis. Laboratory experiments with the serum produced were effective and it has been used clinically since. The dose of the native (unconcentrated) serum for adults is from 20 to 30 c.c. every 24 hours, or on alternate days, depending upon the severity of the case. In addition to his own beneficial results Neustaedter reports that Pettit[16] of Paris has had similar beneficial results with this serum.

In 1917 Rosenow reported in detail the results of treatment in fifty-eight cases of poliomyelitis in Davenport and Dubuque, Iowa, with serum obtained from a horse which was injected at intervals with increasing doses of pure culture of a pleomorphic streptococcus isolated a short time previously from the central nervous system of monkeys paralyzed with a poliomyelitic germ. Since that original report, Rosenow[17] has made several similar reports and the results obtained from the serum treatment with his serum by Rowan, Sugg, Clarke, Dow, and Diveley have been uniformly good.

This serum has been commercialized and hence is obtainable at many drug stores while the convalescent human serum is not. It consequently has been used probably more widely even than the convalescent human serum. In Rosenow's reports all injections were given intramuscularly, usually followed by a rather vigorous massage to facilitate absorption. An objection, however, has been raised at times because of the serum sickness which occurs. However, now there is available a concentrated serum which Rosenow states will largely eliminate the serum reaction. He gives an average dose of 10 to 15 c.c. and the average amount given in each case treated is 62 c.c. In most cases two or more injections were given from 12 to 24 hours apart and as many as six were given in many cases.

3. DRUG TREATMENT

A good many different drugs have been used but there is none specific for the disease (quinine, urotropin, etc.) However, mention should be made of the very frequent occurrence of pain in these cases. Often this pain is so severe that even considerable doses of morphine do not even relieve it. Nevertheless, it is our opinion that morphine is very desirable and that the many objections which are raised against it are not particularly valid when one considers the small dose that is used and the short interval over which it is necessary. Occasionally some patients are apparently more benefited with codein than with morphine and we have occasionally found luminal effective.

4. MISCELLANEOUS TREATMENT

Ebright[7] believes that these patients should be placed in a cast immediately after the diagnosis has been made and kept in this cast for a period of two or three weeks or even longer if necessary, until the acute stage has entirely subsided. He is not in sympathy with merely placing the paralytic parts in a cast but believes that the entire body should be placed in a cast to prevent the individual from any sort of activity and from receiving any sort of sensory stimuli which might produce a response. It is his aim to as near as possible relieve the anterior horn cells from any sort of activity either directly or through reflex action. On the other hand, Jelliffe and White in their textbook recommend warm baths every three or four hours for ten to twenty minutes at a temperature of 102 degrees.

TREATMENT OF THE CONVALESCENT STAGE

I. *Protective Treatment*

Probably nothing is so important and yet so commonly ignored as the fact that for a period of three to six weeks after the acute illness is past, the patient must be kept at absolute rest. Very often over-ambitious patients are inclined to try to move around and in fact the error is often made of attempting to give these people exercises or massage at this pe-

riod, which is absolutely contra-indicated. It is somewhat of a paradox to say that the important thing to do is to do nothing, yet this is the actual siuation. The paralyzed member should be kept completely at rest, supported where necessary by cradles, pads, splints, prevention of toe drop and other purely protective measures.

II. *Heat*

It must be recognized that some of the muscles will be either paralyzed or, even more often, weakened (partially paralyzed) from the disease while others will be weak from disuse. We must constantly keep in mind that a weakened muscle may be seriously injured by injudicious over-exercise and that fatigue must always be avoided.

Heat is one of the valuable early treatments during the convalescent stage because always the affected parts are clammy and cold and give evidence of poor circulation. Heat not only tends to aid the circulation but favors the possibility of contraction and hence in the administration of exercises, heat should always be the initial form of treatment used. Heat may be given by either direct exposure to sunlight, to alpine light, to infra-red, or to the so-called light bath made up of high wattage tungsten bulbs.

III. *Massage*

The effects from massage are quite comparable to passive exercise but massage in any event must be given by an expert and not by anyone who wants to do a little rubbing and glorify it by calling it massage. Massage must be used very judiciously and very cautiously in convalescent poliomyelitic cases. Deep kneading and compression movements are contra-indicated. The most effective method is light effleurage (stroking). Rubbing in itself does no harm and probably does some good but we should not assume that by telling the mother to stroke a child's limb that the child is receiving massage.

IV. *Muscle Training*

This can be started as soon as the tenderness has completely disappeared. These exercises must be in the form of purposeful activity and must be given at regular intervals, under supervision. Otherwise a great deal of damage can be done. Ordinarily the patient will be inclined to over-exercise the muscles least effected and do little with the paralyzed muscles. An attempt is made to bring into play the effected muscle group and to promote the movements of extension and flexion, abduction and adduction as indicated by the effected muscles.

Perhaps the most recent innovation in the physical therapeutic measures for poliomyelitis has been the inauguration of hydro-gymnastics. These have been most elaborately carried out in the Los Angeles Orthopedic Foundation under Dr. Charles L. Lowman. Various sorts of tubs and pools are devised in which the patient can be immersed and have the benefit of heat, massage, and passive and active motion under water. Besides the heating effect, gravity is largely neutralized and the buoyant power of the water assist in the performancy of active movement which otherwise is impossible.

TREATMENT OF THE RESIDUAL STAGE

This stage is reached when no further improvement in the paralyzed part is obtainable. It is usually months and even a year after the acute illness and functional training must then be replaced by structural support or alteration. This falls in the realm of the orthopedist for the adjustment of mechanical treatment most familiar in the form of braces, and operative treatment where muscle and tendon transplant operations, muscle shortening, etc., can be effected. No one should neglect the psychotherapy necessary at this period.

SUMMARY

Poliomyelitis must be regarded as a systemic disease in which there are therapeutic measures at our disposal for its effective treatment in the acute stage. If successful we can avoid the disastrous and devastating paralysis which so often follows. This can be avoided, however, only if it is early recognized and proper diagnosis made, with the immediate use of serum.

During the second or convalescent state when paralysis has developed, there is a definite course of treatment to be followed. Our neglect to recognize and

assume this responsibility only tends to send our patient to the chiropractor and osteopath. These various treatment methods have here been presented and outlined in sequence.

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LETTERS FROM A KANSAS DOCTOR TO HIS SON

John A. Dillon, M.D., Larned

My dear Boy:

You seem quite relieved that your semester examinations are over and that no concerted action has been taken by instructors to send you home. I was not worrying about this as some way I gained the information that you were getting along fairly satisfactory in your work. One reason I had for this opinion was you always expressed yourself as believing your instructors were good square shooters and if you did not make it no one was to blame but yourself. That has been my experience. The student or the parent of the student who is always getting the worst end of it is usually entitled to that end. Any high school teacher can tell you of his experiences with disgruntled parents who feel that their children are being mistreated at school. In times past one of the popular indoor sports was "lickin' the teacher." I remember well in my high school days when an indignant father of a young fellow announced boldly that he was going up to the high school to whip the professor. He was a big husky individual and quite a number of the boys about the pool room encouraged him in the laudable undertaking. Everything went off according to schedule excepting that the crusader made the mistake of calling the professor a few preliminary and uncomplimentary names. The result was that the professor struck first and the righteous parent went down for the count and stayed down. Ever afterwards when moron children failed to make their grades in that school relatives vented their displeasures by quietly gnashing their teeth. The truth is a good silent tooth gnasher in any walk of life has a better chance to attain a maixmum longevity than the individual who calls names and wants to fight. So in your college work never get the idea that some teacher has it in for you. And never try to curry favor with a teacher by feigning an undue interest in a subject. The student who does this is very quickly appraised by his fellows and becomes about as popular as a relapse of the mumps.

I saw the examination questions you and your brother were called upon to answer and would hate to tell you just how many I could answer. I was quite interested in the text books you are using. It must be very satisfactory to have as your teachers the men who have written your books. However, it might be quite a calamity should it become necessary to make a change in instructors. That would hold up teaching until the new man could write his text book.

I read the chapter on the "Psychiatric Manifestations of the Fish-worm during the Mating Season" with considerable interest. I failed to get this line of study and have felt the loss of it keenly. Even after many years when I string a fish-worm on a hook hoping to land a nice carp, I feel embarrassed that I do not know where its nephridiopores is located; but you coming later will know and that will satisfy me. You will gradually extend your knowledge and interest

and when the time comes that you can successfully cope with the hired-man's tape worm, you will realize the value of the worm training you have had. And don't forget that it is no long step from studying white mice and gold fish to the handling of bubonic and icthyosis—better look up these while you think of it. So if the study of sex urge of the Siberian gnat may appear to be irrelevant don't pass it over lightly as it probably is of importance to some one and it certainly is to the gnat.

When I visited you boys last week I was amazed at the display of shoes, neckties, clothes, etc. When you were home and your mother kept these articles carefully picked up the enormous over-supply was not evident. This also may be an indication of college sophistication but to me it savors of lazy carelessness.

If you are accumulating knowledge and storing it away in the same slipshod manner, I fear it will be hard to find when the occasion demands it. Method and orderliness in living quarters, habits, and in study are essential and I might add, few possess it. You will not acquire it after leaving college. I never did. And as long as I am making a lecture of this letter I might further state that a smoke screen of tobacco does not help to make intricate problems any clearer. The three pipes a day you told your mother about certainly keep your room mighty cloudy.

Love, DAD.

APPENDIX MAY BE CAUSE OF JOHNNY'S STOMACHACHE

"Johnny's Stomachache," according to Dr. Rachel Ash whose article by that title appears in the March Hygeia, should not be treated by the parent, who, with a spoon in one hand and a bottle of castor oil in the other, forces the deadly poison down his throat. The author says "deadly poison" because Johnny's stomachache may be due to his appendix. In this case the defenseless intestines, inflamed as they are, have forced in them the dose of castor oil, which sets them into activity. This alone may cause a ruptured appendix. Other functional disorders are greatly harmed by a laxative. A careful diagnosis by a competent physician may save a child's life.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of
The Kansas Tuberculosis and Health Association

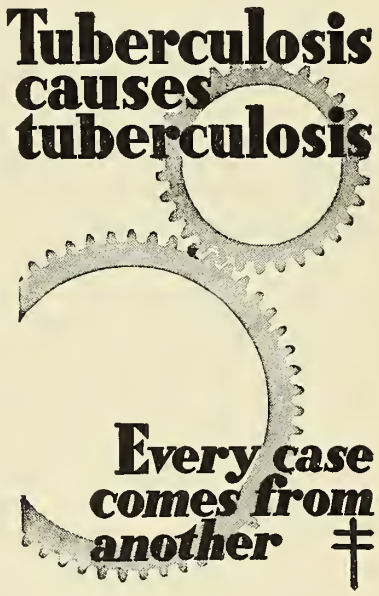
FINDING THE OTHER CASE

H. E. KLEINSCHMIDT, M.D.
National Tuberculosis Association

The time has come to throttle tuberculosis at its very source.

We know how this disease starts; how it is communicated; how it can be prevented; how it can be discovered even before there are any outward symptoms.

But we do not apply this knowledge extensively enough, or this disease would not be exacting a penalty of more lives between the ages of 18 and 30 than any other.



It is simple enough to say that every case comes from another—the cause of infection in the family or neighborhood—and that if we find that other case we can cut off the source.

Quite another thing is it to put this knowledge into practice. Just as the disease in the human body skulks behind the disguise of health until it has entrenched itself well enough to show its head, so in the social body it hides behind fear, pride, and indifference to escape those measures which would mean its extinction.

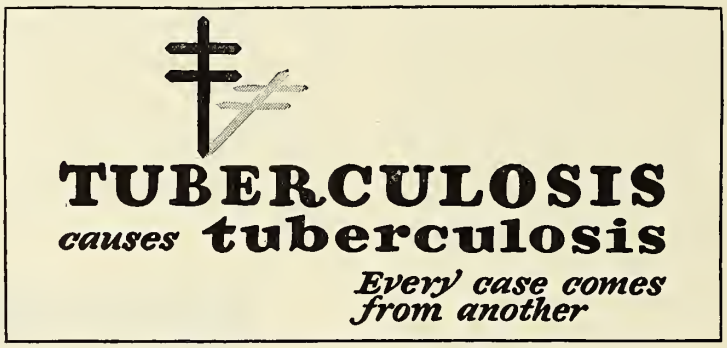
Against these intangible forces the tuberculosis associations of the country are to take arms beginning April 1, 1932. They are enlisting the help of physicians, health officers, nurses, social workers, and community leaders in a campaign of education to inform every person in the United States that "every case comes from another." It is important to care for the known case, and this work must be continued. It is important to effect general measures of prevention, and this must be continued, too. But most important, most *vital,* is to make a special effort in each specific instance of tuberculosis to *find out where it came from,* and stop further spread of the disease.

Each case of tuberculosis has a source. Usually it is to be found in close and long continued relationship. Unless this case is found, continued exposure may overpower the resistance of still other persons, and worst of all, children may be receiving serious infection. When the source is found, the contact may be broken, preventing further damage. While this work has been done to some extent in the past, our newer knowledge of latent tuberculosis tells us that many sources of known cases reside in persons who are thought to have bronchitis, heart disease, or some other chronic ailment.

Today the facilities for discovering the unsuspected source of tuberculosis are greater than ever before. There is a more general understanding of the tuberculin test and the *x*-ray, those able adjuncts to diagnose. There is less of unreasoning fear to combat, and more of open minded willingness to accept proved scientific fact. Now is the time, if ever, to trace every case of tuberculosis to its source.

CAMPAIGN PLANS

Concerted efforts to reduce the toll of tuberculosis by applying modern methods to "find the other case" are to be made beginning April 1, 1932. This involves the co-operation of tuberculosis associations, physicians, health officers, public health nurses, social workers, and community leaders throughout the United States. Educational material is available, as follows through the Kansas Tuberculosis and Health Association, Topeka, Kansas:



THE PANEL POSTER FOR THE CAMPAIGN

For the General Public. *Tuberculosis Doesn't Just Happen.* A four-page circular designed for popular reading. Explains why it is important to find the other case.

For the Physician. *Where Is the Other Case?* A 12-page pamphlet. How the practicing physician holds the strategic position to prevent the spread of tuberculosis by tracing every case to its source.

For the Health Officer. *Closing In on the Old Enemy.* A 12-page pamphlet. Describes in detail the technique of finding cases.

For the Public Health Nurse. *The Adventure of Case Finding.* A 12-page pamplet. Nurses have unique opportunities for close observation of families enabling them to find new cases early, and procure the examination of all persons in contact with tuberculosis.

For the Social Worker. *Why Does It Run in the Family?* A 12-page pamphlet. Just how tuberculosis is communicated, and just why every case, active or inactive, must be traced to its source.

THE JOURNAL
of the
Kansas Medical Society

EARLE G. BROWN, M.D. - - - - Editor

ASSOCIATE EDITORS—L. B. SPAKE, E. C. DUNCAN, O. P. DAVIS, J. T. AXTELL, J. F. GSELL, C. C. STILLMAN, ALFRED O'DONNELL, H. G. HARDESTY, I. B. PARKER, C. H. EWING, W. F. FEE.

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HEADACHE

Headache is a danger signal of some abnormal condition of the body which requires correction. While headache is an unpleasant sensation it oftentimes serves a useful purpose in directing attention toward the abnormality which if not corrected may result in serious damage to vital organs or body tissues. Headache, without doubt, is the most frequent of all complaints and very few persons have not suffered its inconvenience.

Primarily, it must be remembered that headache is not a disease; it is a symptom. Headache may result from a dietary indiscretion or it may warn of some approaching, rapidly fatal disease. The cause may originate in structures adjacent to the brain or in some organ far distant, such as the kidney or lower abdomen. Sedatives or anodynes, quite true, will ordinarily provide temporary relief, but the cause must be removed to effect a cure.

A headache is usually the first prominent symptom in a majority of the major diseases, especially those of an infectious nature. In a series of 800 cases of headache, the frequency as to cause was found to be: (1) acute colds; (2) constipation, (3) poor hygiene and (4) nervous conditions and eye strain. A simple classification of headaches as to cause has been given as: (1) toxic; (2) mechanical, and (3) functional, or reflex. Approximately thirty per cent of headaches are classed as being toxic in origin; ten per cent of the mechanical type, and the remainder, functional or of a reflex nature. The first type results from the toxins of bacteria growing in some part of the body, or the products of decomposing body cells. The mechanical type of headache follows pressure changes in the cranium, such as occur in brain tumor, concussion or hypertension. The most frequent causes of the reflex type include: eye-strain, heart disease, diseases of the female reproductive organs, hemorrhoids and diseases of the gastro-intestinal tract, of either a functional or organic nature. However, eye-strain is the most frequent cause of the reflex type.

The general mechanics of pain in headache is that it "is produced through either one of two mechanisms or by both acting together. The first is by an increase of the cerebro-spinal fluid pressure within the bony cranium, the second is by infection or irritation of pain-conveying nerves which supply the sheath covering the brain." Since the brain substance does not have sensory nerve endings, it does not of itself have pain. These nerves are located in the dura and an increase in spinal fluid pressure results in a "pinching" of the nerve ends with resultant pain, or the pain may occur as a result of the irritation by toxins developed in some other part of the body and carried through the blood stream.

Migraine, the so-called "sick headache" occurs most frequently in women. Many theories have been advanced as to

its cause, the generally accepted view being "it is a disturbance in function in some part of the brain." Satisfactory results, however, have been reported in the treatment of many of these cases with the ketogenic diet.

Persons who are subject to headache naturally attempt to discover a method for its relief, but frequently because of failure to consult qualified physicians, become addicted to the use of various types of drugs which afford them temporary relief. They continue the use of such drugs without attempting to find the true cause and treat it. Relief from headache should be secured as early as possible and neither the patient nor the physician should be satisfied until the cause is found and, if possible, removed.

When the physician is consulted for advice, while the patient's personal history is of great value, the examination is not complete without a thorough physical examination with special attention given to the eyes, ears, nose and throat and a urine analysis.

MISSOURI COURT ACTS

Kansas physicians will read with much interest, the investigation of a proposed medical school and the result of the investigation as contained in the December, 1931, number of the Journal of the Missouri State Medical Association, entitled "A New Era," as follows:

In October, 1923, St. Louis and Missouri supplied front page news for the press of the country when the St. Louis *Star* exposed the medical diploma mill which had its headquarters in the St. Louis College of Physicians and Surgeons. Here one could buy a diploma for whatever sum he might scrape together. Ultimately, the Missouri Supreme Court revoked the charter of the school for fraudulent practices. Another school in Missouri was involved in the medical diploma mill, the Kansas City University of Physicians and Surgeons and the Supreme Court revoked the charter of that school on similar grounds. The ink was scarcely dry on the mandates of the Court before new charters had been obtained.

Eight years later, that is to say, in October, 1931, a petition was filed with Honorable William H. Killoren, Judge of Division 5 of the Circuit Court of St. Louis, asking that a pro forma decree of incorporation be granted the National College of Medicine and Surgery in St. Louis. Judge Killoren appointed former Judge Harry E. Sprague amicus curiae and to Judge Sprague may be accredited the inauguration of the new era. It is not front page stuff but to the medical profession it is a most gratifying indication that our efforts to clean up the medical college field have not been fruitless. The issuance of a pro forma decree of incorporation of a philanthropic or educational institution has hitherto been a very perfunctory action by the courts. When, however, Judge Sprague read the petition for the incorporation of a medical school which frankly stated that the intention of the petitioners was to establish a low grade or grade B school he was mindful of the incalculable damage that the people had suffered by the machinations of the owners of the two schools whose charters had been revoked. Instead therefore of pursuing the usual tactics of the amicus curiae and putting his O.K. on the petition after a cursory examination he made a searching investigation of both the petitioners and of the purposes of the college.

Judge Sprague found that only one of the petitioners had even slight experience in the conduct of a medical school. This was William F. Walker, a graduate of the St. Louis College of Physicians and Surgeons but not licensed to practice in Missouri. Walker did obtain a license to practice in Arkansas and after thirteen months in that state applied for a license in Missouri by reciprocity with Arkansas. The Missouri State Board of Health refused to issue a license to him and thereupon he filed a mandamus suit to compel the board to issue a license to him. The lower courts refused to grant the mandamus and Walker appealed to the Su-

preme Court where the suit is now pending.

The other petitioners were F. E. Deal, who is said to be in the advertising business and was proposed as the president of the institution, and William R. MacCready, an insurance broker. Neither of these men had any knowledge of medicine or the teaching of medicine.

In the articles of incorporation the school would be authorized to teach medicine, surgery and homeopathy and to maintain a clinic and hospital and be organized as a class B institution.

The petitioners stated that they were the representatives of four men who agreed to subscribe $100,000 to finance the proposed college but refused to reveal their identity. This desire for secrecy, they said, was based, first, upon an inclination to avoid solicitations of physicians who might seek employment on the hospital staff; and further because these men had friends in the American Medical Association and professed to be in accord with the standards of that association. They did not desire to disclose their identity until the establishment of the college had become definitely assured.

The application for incorporation in St. Louis was in the name of the National College of Medicine and Surgery but a permit had been obtained in Kansas City in the name of the Missouri College of Naturopathic Physicians and Surgeons. Deal told Judge Sprague that the group had originally planned to operate the college and hospital under the charter obtained in Kansas City with Dr. Edward J. Burns, a Kansas City chiropractor, as superintendent, but they had severed relations with that group. The records of the St. Louis Health Department show that an application was made for permission to operate a college, hospital and clinic in St. Louis. The persons named in the application were, W. F. Walker, Daniel H. Reeder, Edward J. Burns, Robert H. Burns and F. E. Deal.

In his exhaustive investigation Judge Sprague questioned the petitioners most searchingly; he also conferred with the officers of the Missouri State Medical Association and the St. Louis Medical Society and with Dr. E. P. North, St. Louis, a member of the Council on Medical Education and Hospitals of the American Medical Association, and Dr. James Stewart, Jefferson City, secretary of the state board of health. He found that none of these organizations recognized a class B medical school; that if the decree were issued and the school became established it would then be investigated and rated according to the minimum standards of the American Medical Association and the state board of health; that if the school failed to meet these minimum standards it would not be approved by the American Medical Association nor by the state board of health; that in such event, the graduates, if any, would be debarred from taking the examination for a license in practically all the states in this country.

Under these circumstances Judge Sprague recommended to the court that the decree be not issued.

The petitioners evidently discovered that they were experiencing some difficulty in convincing Judge Sprague of the necessity of such an institution and they requested the court through their attorney, Mr. J. Henry Caruthers, permission to withdraw the petition. Judge Sprague declined to agree with this request because he desired the petitioners to appear in court and in their presence to read the evidence he had gathered in order "to prevent, once and for all, the establishment of the college."

The petitioners did not appear and Judge Sprague filed his report with the court. Thereupon Judge Killoren rendered his decision as follows:

"In view of the opinion as disclosed by the report of the amicus curiae, the order of the court will be that the petition for pro forma decree of incorporation filed by the petitioners herein will be denied."

Judge Sprague has established a standard from which there should be no deviation in future when the amicus curiae undertakes to advise the court what action should be taken on a petition for the incorporation of a medical school in Missouri, or indeed in any other state. The most searching investigation should be made into the character of the petitioners, their purposes in attempting to

establish a medical school, the privileges granted the school under the articles of incorporation and how those privileges might affect the welfare of the community. Nothing short of this should satisfy the amicus or the court. If the school is a needed institution and if the petitioners are reputable citizens imbued with the spirit of true philanthropy they will welcome this sort of inquiry. Petitioners with less noble instincts if entrusted with such broad powers as must necessarily be granted in the establishment of a medical school can be nothing but a menace to the welfare of a community and their petition should be denied.

EDITORIAL NOTES

Secretaries of county medical societies are requested to forward accounts of all meetings to the Journal.

Delinquency in payment of county medical society dues may prove very costly, if a malpractice suit should be filed while the member is suspended.

Dr. L. G. Allen, Chairman of the Commercial and Scientific Committee for the annual meeting has requested those members who have scientific material for display to communicate with him at their earliest convenience.

Foshay reports favorable results in the treatment of tularemia cases with a specific antiserum prepared from a goat inoculated with formaldehyde killed suspensions of Pasteurella tularensis. (Journal A.M.A., February 13, 1932. p. 552.)

The review of the health of the army in the United States for the year 1931 by Surgeon General, Major General Patterson shows a death rate of 5.01 per 1,000. Automobiles, credited with seventy-six fatalities were the leading cause of death. But twenty-three cases of typhoid fever were reported among the troops during the year, with one fatality.

The Committee on Foods of the A.M.A. from its examination of the product concludes that Ovaltine is essentially a carbohydrate food, and that its value in gaining weight is no more nor less than that of other similar carbohydrate mixtures, and that Ovaltine is sold with grossly exaggerated claims; its composition is kept a mystery, and that even if it did contain what the manufacturer says it does, it could not do the things the manufacturer says it will. The Committee has listed Ovaltine with the products not acceptable.—(Journal A.M.A., December 12, 1931, p. 1798.)

"The great work in which we are engaged demands all our time and all our energies. Let us see to it that we do not allow ourselves to be diverted from the real objects of our pursuits to waste our time and energies in combatting senseless theories, which, left alone, will soonest reach the oblivion to which they are inevitably destined. Let us remember that the aim of the true physician is not the accumulation of wealth, or personal fame or aggrandizement, but the advancement of his science, the perfection of his art, and the emancipation of mankind from the bondage of disease; that he alone is the sole conservator of the public health, and that he alone is charged with the responsible and elevating duty of rescuing his race from the disease and death incurred by their own ignorance and recklessness. This duty and this responsibility is ours." (Excerpt from the presidential address of Albert Newman, M.D., at the annual meeting of the Kansas State Medical Society, at Leavenworth, April 15-16, 1868.)

———℞———

GOOFY STUFF

"You look hollow chested and thin,' said the air pump to the inner tube. "What seems to be the matter?"

"Income tacks," wearily replied the inner tube.

THE PRESIDENT'S MESSAGE

To Members of Kansas Medical Society:

My attention has been called to an article published in the Topeka State Journal under date of February 24, 1932, in reference to scandals emanating from recent legislation on aid for crippled children.

This is the same old story of politics. Alibis and making some one the goat, seems to be the chief stock in trade. Some one must be the goat and as the medical profession is the one most enjoyably discussed without a comeback, they are made IT.

As president and active chairman of the Council at the Mid-winter Council Meeting, I wish to state I sat through the entire meeting and heard every word, discussion and motion. Not even an intimation or a suggestion was made by any member or any one present in reference to the charge made, or any plan whereby the Kansas Medical Society should even consider any such responsibility. No mention was made of any plan for the development of such a hospital.

Personally, it is my opinion that high-class surgeons all over the state should be selected first as being men capable of doing this work in their home hospitals if adaptable and permit each worthy individual to be treated if practical in his home community.

We should recognize in this day that no one has a corner on worthy surgery. It is true that some surgery is more approved than that of others, but such may be arranged in the first selection.

Respectfully submitted,

P. S. Mitchell

President, Kansas Medical Society.

Iola, Kansas,

February 27, 1932.

———R———

PROOF ENOUGH

Judge: Do you know anybody who can vouch for your good character?

Accused: Yes, the chief of police.

Judge: But he says he doesn't know you.

Accused: What more do you want? I've lived in this neighborhood for 20 years and he does not know me.—Lustige Blaetter, Berlin.

YOUR CONVENTION CITY FOR 1932

Kansas City, Kansas, will entertain the Kansas Medical Society Convention on May 3, 4, 5.

Kansas City, Kansas, situated on the Missouri River at the mouth of the Kaw, is the largest city in the state, and twenty-fourh in the United States in the value of manufactured products, there being only two cities west of Kansas City, Kansas, with a larger manufacturing output, and only fourteen states in which there is located a city with a greater manufactured output.

Historical: Kansas City, Kansas, is replete with interesting history dating back to the sixteenth century.

In 1804 Lewis and Clark began their expedition, one of their principal camps being located on the present site of Kansas City, Kansas.

In 1842 the Wyandotte Indians by a treaty sold their Ohio lands and sought a new location. They obtained the land by purchase from the Deleware Indians and founded, on the present site of Kansas City, Kansas, the town of Wyandotte in 1843. In 1855 the Wyandottes sold their lands to the Federal Government and in the treaty transferring their lands there is a clause that their burial ground, the Huron Cemetery, located in the downtown district, shall be preserved "As long as the sun shines or the waters flow."

SOLDIERS AND SAILORS MEMORIAL BUILDING

The first economic adventure was launched in 1857 when a steamboat made a trip up the Missouri River from St. Louis. A trading company was established and steamboats plied the Missouri to Kansas City, Kansas, and from there the Kaw, now the Kansas River, was used as far west as Manhattan.

Population: The 1930 census records the population at 121,857 for the city and 141,000 for the area of the city and its environment. The population is chiefly English-Celtic, with percentages being as follows: English-Celtic, 78 per cent; Negroes, 11 per cent; and other tongues, 11 per cent.

COURT HOUSE

Transportation: Kansas City has thirteen trunk line railroads, thirty-two subsidiary lines and three interurban railway lines. Six motor bus lines radiate from the city over excellent highways to all parts of the United States.

Hospitals: Kansas City, Kansas, has six modern hospitals with a total room capacity of eight hundred sixty-five rooms.

Bell Memorial Hospital, located at 39th and Hudson Road in the Rosedale section of Kansas City, Kansas, is maintained by the state and used for final instruction for future physicians and surgeons who have completed other work at the University of Kansas at Lawrence.

St. Margaret's Hospital, located at Coy and Homer Avenues, is the largest hospital in the city and the oldest institution of its kind in this vicinity.

Bethany Hospital, located near 12th and Central, is a Methodist institution and has in connection with it a nurses training school.

Providence Hospital, at 18th Street and Tauromee Avenue, is the newest hospital in the city, having just been completed a few years ago.

Churches: Kansas City has one hundred ninety churches of every denomination housed in fine buildings and with modern equipment.

Schools: Kansas City has seventy-five public and parochial schools which are recognized for their high standards by educators and instructors of higher learning.

In the public school system there are thirty-nine grade schools, thirty-one of which are for white pupils and eight for negro pupils. There are four junior high schools for white students and one for negroes; three senior high schools for white students and one for negro students. There is a Junior College offering fully accredited two year courses which are accepted by all universities and colleges throughout the country.

There are seventeen Catholic grade schools and two Catholic high schools, one for girls and one for boys.

The Continuation or Night School offers courses in industrial arts, manual training, mechanical drawing, complete business courses, and actual shop practice in industries.

FAIRFAX TERMINAL BUILDING

The public schools have an enrollment of approximately 23,000 students and are housed in fifty-eight main buildings of modern construction.

Fairfax Airport: Kansas City, Kansas, has the finest airport in the country. Its accessibility and the ease with which it can be spotted from the air, the soil, the layout of the field, the location of the hangars, the excellent terminal building, and the meterological conditions prevailing on the field, make it ideal in every respect.

The Administrative Building is a modern fire-proof brick and concrete structure. The first floor has a complete modern dining room, a grill and soda foun

tain, a large waiting room, radio broadcasting station, telegraph office, barber shop, emergency hospital, and drug store. Office space is provided on the second floor. The third floor is devoted to field operations, being provided with a specially designed radio room for the broadcasting of short wave communications to aeroplanes in transit, advising them of weather conditions and other necessary information. The observation tower is provided with a glass dome, through which the field manager may observe aeroplanes in every direction. Modern pilots quarters, also, have been provided to accommodate forty men.

The ground surrounding the Terminal Building is beautifully landscaped, having more than thirty thousand plants making up the specially designed aerial landscaping.

A spectacular sight at Fairfax is the night flying. Visitors have the opportunity of securing a view of the Greater Kansas City area from the air with the regular night flying schedules in effect at Fairfax.

Y. M. C. A.: Kansas City has the finest Y. M. C. A. Building in the middle west, affording excellent opportunities to improve the mind, the spirit and the body.

Y. M. C. A.

Industry: Although Kansas City, Kansas, is sixty-sixth in the United States in population, its ranks twenty-fourth in the value of manufactured output, with a total of $301,000,000; there being only fourteen states in the United States having a city with a larger production. There are only two cities west of Kansas City, Kansas, with a greater industrial output.

Kansas City, Kansas, is second in the United States in the meat packing industry. The plants of Armour & Company, Swift & Company, Cudahy, Wilson and Fowler being located in this city. These industries employ nine thousand men and women and their yearly wages amount to $12,000,000, and the total value of packing products is in excess of $200,000,000. Kansas City meat is sent to all parts of the world.

In the manufacture of soap Kansas City, Kansas, is third in the United States with the plants of Colgate-Palmolive-Peet and Proctor & Gamble within its limits. She is third in flour milling capacity and production, the Southwestern Milling Company's plant having a capacity of 13,000 barrels daily.

In the storage of grain, this city is third, having a total capacity in its seventeen elevators of 26,200,000 bushels. The

CARNEGIE LIBRARY

Santa Fe elevator at the edge of the city is the largest elevator in the world, with a capacity of 11,200,000 bushels.

The Kansas City Structural Steel Company is the largest structural steel plant west of the Mississippi and normally produces 55,000 tons of steel annually.

The Sinclair Oil Company and the Phillips Petroleum Company have large refineries in Kansas City, Kansas, with a combined capacity of 16,000 barrels daily and a storage capacity of 1,600,000 barrels.

Kansas City is second in stock yards, receiving annually approximately 9,000,000 head of cattle. It is first as a hay market, second as a horse and mule market.

In 1930 the Great Lakes Pipe Line

Company moved its center of operations to this city and its net work of pipelines now radiate from their central plant here. These pipelines carry crude oil, and gasoline to Chicago, Minneapolis and intermediate points.

Shops and yards of the Santa Fe Railroad, the Union Pacific Railroad, and the Rock Island Railroad are located in Kansas City, Kansas, their combined employees being more than eight thousand men.

Because of the excellent shipping facilities, Kansas City, Kansas, has become the American walnut lumber center of the United States.

Other important manufacturing concerns include steel foundry products; planing mills; airplanes, airplane engines and parts; caskets; building and monumental stone and granite; steel products; junk materials; building tile and terra cotta products; cereals; chemicals; creamery products—butter, ice cream, etc.; poultry and stock feeds; lumber products; and other products too numerous to mention.

Opportunity exists here for the manufacture of a varied line of commodities, including shoes; canned fruits and vegetables; electrical appliances; stoves; steel castings; clothing; furniture; agricultural implements, etc.

ANNUAL MEETING, KANSAS CITY, MAY 3, 4 and 5, 1932

APPOINTMENT OF COMMITTEES

Dr. L. B. Gloyne, president of the Wyandotte County Medical Society, has announced the appointment of the following committee chairmen for the annual meeting, May 3-5:

L. G. Allen, Commercial and Scientific Exhibits.

C. Omer West, Banquet Entertainment Committee.

L. L. Bresette, Banquet and other dinner reservations.

L. V. Hill, Hall Committee.

C. C. Nesselrode, Entertainment Distinguished Guests.

L. B. Gloyne, Public Meeting Committee.

C. J. Mullen, Golf Committee.

C. W. Davidson, Service Clubs Speakers Committee.

THE LABORATORY

Edited by
J. L. LATTIMORE, M.D., Topeka

In the laboratory, no test is any more dependable than the precautions used in collecting the specimen. The carrying out of the technical examination may be correct, but if the specimen has been collected and preserved poorly, the test will be unsatisfactory. This is experienced almost daily in the office of most physicians, when they receive a specimen of urine from a female patient, containing material, such as blood, pus, bacteria, mucus, etc., which really comes from a vaginal discharge. A routine instruction to all female patients: before collecting the specimen of urine, be sure that the external genitalia are well cleansed. Urine for bacteriological examination should always be a catheterized specimen.

It is a fairly common error for a specimen of blood to be sent to the laboratory, in an ordinary test tube, clot formed, with instructions for a blood count. So far as I know the only satisfactory method for sending in blood for the blood count, is by collecting the blood in a sterile syringe and immediately putting it into a vial containing two milligrams of potassium oxalate, per each cubic centimeter of blood, shaking in a gentle rotary motion for about five minutes. An article appearing in the Journal of Clinical and Laboratory Medicine, page 476, February 1931, by Osgood, Haskins and Trotman is an excellent article on the use of oxalated blood in thirteen ordinary routine tests. Their experience shows that oxalated blood is satisfactory for performance of the following tests: blood count, including the hemoglobin estimation, the platelet count, red cell volume, color, index, volume and saturation indices, icterus, index, sedimentation rate, van den Bergh's test, peroxidase test and fragility test. My own experience, several years ago, also shows that oxalated blood is satisfactory for the Wassermann test, if the examination was

made within twelve hours, before hemolysis begins.

When a stool examination is desired, specific instructions should be given the patient. If the examination is for blood only, instruct the patient to eat no meat for forty-eight hours as a slightly positive test may be obtained from the blood digested with meat, especially beef. If the examination is to be made for amoeba or other parasites, a routine instruction to the patient is about as follows: In the morning, before breakfast, take one to two ounces of saturated magnesium sulphate, discard the first bowel movement, save and deliver to the laboratory, the second specimen, while still warm. To do this, place a portion of the specimen in a small jar, then put this jar in a larger container and pack around with sand or salt, warmed to a comfortable heat to the hand. It must be borne in mind that one negative examination is not satisfactory; repeated examinations must be made. This is not only true of stools, but many other laboratory tests. *Negative reports must not confuse the physician in making his diagnosis.*

Throat swabs, collected upon a sterile cotton applicator must be delivered to the laboratory within a few hours. If delivered the next day, very likely the material on the swab will be dry and a negative report will be obtained as a result of this drying. Further, care must be exercised that the material obtained is directly from the portion of the throat that shows the most pathology. All tissue, removed at operation should be preserved in 5 per cent formaldehyde and not in alcohol.

The American Society of Clinical Pathologists, two years ago, started work on establishing standard laboratory technique for each of the laboratory tests. This work has just appeared in the form of a book, published by Appleton and edited by Drs. Kolmer and Boerner. It is an excellent book and will be a valuable addition to the laboratory library. It covers the entire laboratory field, giving the detail technique of the accepted test, for any one particular condition.

Failure to obtain autopsies in 75 per cent of the mortalities is usually due to the fact that the attending physician is too busy to take an hour's time and talk to the family, then another to hold the autopsy. I am convinced, that we can obtain this percentage of autopsies, if a diligent effort is made by one responsible person. I find physicians and surgeons are interested in the study of the microscopical sections from these cases and it is my custom to furnish them with a slide on each tissue. It requires very little extra time and expense to make two slides instead of one. If the pathologist expects to be considered on a par with any other physician and expects to discuss the physician's cases, then the pathologist must certainly meet with and talk over pathological slides with the physician.

The State Laboratory meeting will be held in Kansas City, Kansas, May 4. The American Society of Clinical Pathologists will meet in New Orleans, in connection with the meeting of the American Medical Association, May 9-13.

GERMICIDAL AND THERAPEUTIC APPLICATIONS OF SOAP

According to John E. Walker, Opelika, Ala. (J.A.M.A., July 4, 1931), soaps are strongly bactericidal against pneumococci, streptococci, meningococci, diphtheria bacilli, influenza bacilli and *Spirochaeta pallida.* Their activity against these organisms compares favorably with that of many of the recently synthesized chemicals. When properly used for cleaning the hands or for the washing of eating utensils, soaps are undoubtedly potent factors in preventing the spread of diseases due to these organisms. The action of soaps as germicides is, however, limited by the fact that they do not destroy staphylococci and typhoid bacilli.

The wife of a famous English Bishop—whom we shall call John Smith—was recently very ill, and required a serious operation. As she recovered from the anesthetic, she was heard to murmur: "Am I in Heaven? Am I in Heaven? No, there's John."—Christian Register.

LIBRARY
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RECENT MEDICAL LITERATURE

Edited by
WILLIAM C. MENNINGER, M.D., Topeka

Tachycardia: In a series of 26 cases of supraventricular tachycardia Barrier reports one case having an attack lasting three years and another case lasting nearly six years. He points out that the prognosis of this group of cases concerns itself more with incapacity than mortality. He finds that auricular attacks may begin at rates above 180 and finally drop to 140 or less. Treatment consists of removing the cause, arresting and preventing attacks. He used massive doses of digitalis in eight cases and arrest was observed in six of them. Quinidine sulphate was used in ten and arrested attacks in nine. Quinidine was regarded as the most desirable although in the presence of heart failure digitalis will act and may be the drug of choice. (Barrier, Chas. W.: Tachycardia. Annals of Internal Medicine 5:829-840. January, 1932.)

Human Blood in the Treatment of Mumps: A study was made by Barenberg and Stroff of 180 children ranging in age from one and a half to three years who were susceptible to mumps. At the onset of an epidemic 44 of these children were given 12 c.c. of blood from convalescent patients and 11 children received the same amount from adults who had had mumps in childhood. Two wards of the nine used were used as a control not being given any specific therapy. In these untreated wards there was an incidence of 49.5 per cent whereas in the treated wards there was an average incidence of 26.6 per cent. Furthermore, mumps was markedly attenuated by this form of serotherapy with a definite shortening of the epidemic. The results from injection of blood from an adult were not as definitely favorable as those from patients convalescing. (L. H. Barenberg and Ostroff, J.: The Use of Human Blood in Protection Against Mumps. American Journal of Diseases of Children 42:1109-1114, November, 1931.)

Nourishment from Glucose Enema—Contrary to the generally assumed opinion that a dextrose retention enema will provide the individual with a certain amount of carbohydrate, Scott and Zweighast demonstrate that there is no rise in the blood sugar as a result of administering dextrose in this fashion. In fact in a good many of their cases they noted a slight drop in the blood sugar curve which they assumed might be due to a stimulation of pancreatic activity brought about by the absorption of a slight amount of dextrose. Further they determined that a variable and frequently considerable amount of the dextrose administered by an enema could be recovered from the stools after two and one-half hours. In carrying out their experiments they administered 400 c.c. of a 10 per cent dextrose solution by rectum and the total average of these shows a slight drop from 113 mgm. to 105 mgm. in one and a half hours.

Scott, E. L. and Zweighast, J. F. B.: Blood Sugar in Man Following the Rectal Administration of Dextrose. Archives of Internal Medicine 49:221-226. February 1932.

Nervous Mother's Effect on Baby—Pounders describes a group of babies who for the first six months of their lives are poor sleepers, and are restless and uncomfortable a large part of the time, regardless of what food they have. He associates this with a certain class of mothers who themselves are restless, concerned about the way the baby nurses, the number of bowel movements it may have, the necessity to inspect it several times a night whether it is asleep or not and who look upon their babies as prospective victims of all sorts of disastrous ailments. He thinks there is no solution for this situation so far as the child is concerned and believe that after reaching the age of five or six months nearly all of them tend to overcome the condition.

Pounders, C. M.: The Nervous Mother and Her Baby. Journal of the Oklahoma State Medical Association. 25: 51-53. February 1932.

Treatment of Congenital Syphilis—The important factors in the successful treatment of congenital syphilis are conservatism, persistency and rotation, according to Bishop. He states that the present trend is toward smaller doses of arsenicals and more prolonged treatment and that the most satisfactory results are obtained by the rotation of drugs includ-

ing arsenicals, bismuth, mercury and iodides.

In the study of a series of cases 40 per cent of the total died, 51 per cent had manifestations before two months of age and the mortality in this group was 78 per cent.

Bishop, J. M.: A Study of Congenital Syphilis. Virginia Medical Monthly 58:541-545. November 1931.

Cutaneous Capillary Anomalies in Neurathenic States—Griffith tries to conclude from the study of 31 cases of neurasthenia, which he labels in quotations, that because eight of these showed abnormal cutaneous capillary configuration in the nail beds that the presence of this abnormality may often suggest a neurasthenic state, dating from early life and consequently a constitutional nervous instability. Only one-fourth of the cases studied showed this and the series of cases was very small to make any very definite conclusions. He states that in the absence of any recognized peripheral vascular disease, abnormal cutaneous capillary configurations as seen in the nail beds are most apt to occur in conjunction with neurasthenic states. The paper is a weak attack on the somatic relationship with functional mental states although there is no attempt to define what he refers to as neurasthenia.

Griffith, J. Q.: The Frequent Occurrence of Abnormal Cutaneous Capillaries in the Constitutional Neurasthenic State. American Journal of the Medical Sciences. 183:180-186. February 1932.

Treatment Results in General Paralysis—Based on the findings of 197 patients (125 men and 72 women) Hinsie and Blalock obtain the best results in the treatment of general paralysis with tryparsamide, second with malaria, and last combined with malaria and tryparsamide, although in the latter classification they point out that most of the patients in which they were used together had shown very little progress under malaria alone. Of all treatments which they used, they obtained remissions in 22 per cent improved in 17 per cent, unimproved 19 per cent, dead 40 per cent. The average duration of life expectancy in the group that died was 22.7 months, even with treatment. Those patients classified as expansive experienced the highest remission rates and those with a schizophrenic coloring had the lowest remission rates. They found no close parallelism between the clinical and the laboratory status although with time laboratory syphilitic findings tend to become negative.

Hinsie, L. E. and Blalock, J. R.: Treatment of General Paralysis Results in 197 Cases Treated from 1923-1926. American Journal of Psychiatry 11:541-558. November 1931.

THE PRODIGAL

Electrocution for murder is not an accident. Such was the decision by the Supreme Court in the case where a life insurance company was sued by the wife of a murderer who was electrocuted for the crime by the state.

"Scientists at the Polytechnic College at Pasadena are testing an improved microscope, said to magnify 17,000 times." If it works it will enable a doctor to tell what his patient is thinking about.

The nurse had cared for the invalid woman for several months. Like the doctor she had received but little pay, although her patron was amply able to pay. She feigned sick and went to bed, the family doctor was called in, examined the nurse carefully after which the following conversation took place:

Doctor: "I can find nothing the matter with you, nurse. Why are you in bed?"

Nurse: "I have been nursing and caring for this woman four months and have not received a month's pay. I need clothing and money to pay my debts. I just got desperate and concluded to come to bed and stay here until I got my pay."

Doctor: "Say sister, lay over"

COUNTY SOCIETY NEWS

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met in monthly session in the Sun-Room of the Clay Center City Hospital February 10, 1932, thirteen members and thirteen visitors being present. In spite of the hoodoo number, the meeting proceeded with huge success. Dr. W. A. Carr of Junction City, president of the society, presided during the program.

Dr. Thomas G. Orr of Kansas City addressed the fraternity on the subject "Peritonitis," and Dr. Vernon L. Pauley of Halstead spoke on "Tuberculosis of the Kidney." These papers were intensely interesting, unusually instructive, comprehensive and practical. The acute discussion following these papers proved beyond a doubt that everyone was wide awake and alert during the dissertation.

Following the discussion, Dr. Pauley was elected to honorary membership in the society, Dr. Orr having been previously elected.

Out of town guests included: Dr. Thomas G. Orr, Kansas City, Mo.; Drs. Vernon L. Pauley and Arthur H. Dyck, Halstead; Drs. Ralph G. Ball, J. D. Colt, Sr., Ryan Schoonhoven and R. R. Cave, Manhattan, and Dr. Ray Gomel, Abilene.

Due to the late hour the business session was postponed until the next meeting on March 9, at 8:00 p. m. at the same place. The program will consist of two papers: "Peptic Ulcer," by Dr. Henry N. Tihen and Dr. John L. Kleinheksel, both of Wichita.

J. Leonard Dixon, M.D., Sec.

FORD COUNTY MEDICAL SOCIETY

The Ford County Medical Society held their February meeting on February 12, 1932, in the Jade Room of the Lora-Locke Hotel, Dodge City. Dinner was served at seven after which the meeting was called to order and presided over by the president, Dr. J. G. Janney.

After the routine business of the society had been disposed of, the members and visitors had the pleasure of listening to a very helpful and interesting talk by Dr. H. P. Boughnou, Professor of Physical Diagnosis, University of Kansas School of Medicine, in which he discussed "Acute Respiratory Diseases," with especial consideration of "common colds," influenza, and the pneumonias. Those present felt well repaid for the distance traveled in coming to the meeting. An informal discussion followed Dr. Boughnou's paper.

Those present included: Visitors—Drs. H. P. Boughnou, Kansas City, Mo.; T. J. Brown and L. R. McGill, Hoisington; E. Trekell, E. J. McCreight, C. E. Phillips and W. T. Grove of Liberal; F. G. Meckfessel of Lewis; E. D. Updegraff of Greensburg; G. Kenneth Lewis, R. M. Troup, O. W. Miner and Sanford Bailey of Garden City; G. R. Hastings of Lakin; Mr. Bill Jones of Ashland, and Mr. G. D. Marlott of Kansas City, Mo. Members present were: Drs. J. G. Janney, R. G. Klein, J. W. Spearing, C. E. Bandy, C. H. Briggs, F. E. Dargatz, C. L. Hooper, A. C. Johnson, W. H. Jones, N. E. Melencamp, W. F. Pine, J. B. Ungles and W. Errol Wilson.

W. F. Pine, M.D., Sec.

DOUGLAS COUNTY MEDICAL SOCIETY

The Douglas County Medical Society held its regular monthly meeting the evening of January 7, 1932, in the Grill Room of the Hotel Eldridge. It was entirely a social meeting with physicians, wives, nurses and secretaries in attendance, the total being 102.

President A. J. Anderson presided. Dr. T. S. Blakesley, of Kansas City, Mo., entertained for forty-five minutes with magic and sleight of hand. Dr. Blakesley's skill, versatility and stage personality kept everyone intensely interested during the entire performance. Dr. L. S. Powell then entertained with moving pictures of various European clinics and cities visited by him during the past summer.

Doughnuts and cider were served informally. A business meeting was not held.

The regular monthly meeting of the Douglas County Medical Society was held the evening of February 4 at the Lawrence Memorial Hospital, President A. J. Anderson presiding.

The program was in charge of Drs. Arthur S. Anderson and Park H. Woodard. The subject of the evening was "Peristalsis." Dr. Woodard showed recent moving pictures of peristalsis in the rabbit taken by the "Alvarez Method."

Dr. J. R. Bechtel read the report of the society's Committee on Economics, which constituted an investigation into the recent "Crippled Children's Act." Considerable discussion followed and the committee was instructed to continue its

investigations and make a more complete report at the March meeting. Drs. A. J. Anderson and H. L. Chambers were added to the personnel of the committee which already consisted of: Drs. G. M. Liston, J. R. Bechtel and H. M. Clodfelter.

Dr. W. C. McConnell, president of the Board of Education of the Lawrence Public Schools, called attention to the fact that in the city schools twenty-one per cent of the 1,600 children are now underweight, as compared with only eight per cent at the same time last year. The same methods of examination were used both this year and last year and the examining personnel was the same. Dr. C. B. Johnson observed a similar situation existed in the Eudora schools. Considerable discussion followed. It was pointed out that investigations among grocers and milk producers revealed the fact that many families who a year ago purchased from three to five quarts of milk per day, now purchased but one quart; also the situation was complicated by the fact that many families, because of pride refused to allow their children to drink the free milk furnished at the schools. The feeling was expressed that perhaps severe epidemics might ensue among those children whose resistance was low.

L. S. Powell, M.D., Sec.

ELK COUNTY MEDICAL SOCIETY

The Elk County Medical Society met at the library rooms, Court House, Thursday evening, February 25. The following officers were elected for 1932: President, R. C. Harner, Howard; vice president, S. F. McDonald, Severy, secretary-treasurer, F. L. DePew, Howard; delegate to annual meeting, F. K. Day, Longton.

Program Committee, R. C. Hutchinson, Elk Falls; censors: one year, F. K. Day, Longton; two years, J. A. Archer, Grenola; three years, E. A. Marrs, Sedan.

F. L. DePew, M.D., Sec-Treas.

LYON COUNTY MEDICAL SOCIETY

The regular monthly business meeting of the Lyon County Medical Society was held at the Newman Memorial County Hospital. The program consisted of a symposium on obstetrical subjects. Dr. C. L. Patton discussed toxemias, Dr. Finley pre and post-natal care and Dr. Morgan management of labor. The discussion was followed by moving pictures on these subjects projected on the machine owned by the Society.

It was decided to place a copy of Folks in the City Library, the Library of each of the colleges and the senior and junior high schools. The county society each year buys approximately $50.00 worth of books for the Newman Memorial Hospital and training school. These have already been purchased this year.

The Lyon County Medical Society, on April 11, will celebrate the fiftieth anniversary of its organization. Plans include an all-day clinic in charge of Drs. J. B. Jackson, F. C. Neff and Ralph Major. There will be plenty of entertainment for the ladies and the day will conclude with a banquet. Dr. P. S. Mitchell, president of the State Society will be present in the evening.

C. E. Partridge, M.D., Secretary.

THE PHYSICIAN'S LIBRARY

Health Protection for the Pre-School Child. A National Survey of the Use of Preventive Medical and Dental Service for Children under Six. Report of the Section on Medical Service. George Truman Palmer, Dr. P. H., Chairman Subcommittee on Statistics, Mayhew Derryberry, Research Assistant, Philip Van Ingen, M.D., Chairman, Committee on Medical Care for Children. White House Conference on Child Health and Protection. 275 pp. $2.50. The Century Company, New York and London. 1931.

This report of the White House Conference attempts to answer the question: "To what extent is the health of the children in the United States, who are the nucleus of the next generation, being protected?" The primary purpose of the study was to determine the number of children under six years of age (preschool children) who had received four universally recommended preventive health measures: (1) a health examination; (2) a dental health examination; (3) vaccination against smallpox; and (4) immunization against diphtheria. The findings, therefore are based upon and the conclusions drawn on a house to house canvas made by representatives

of nearly a thousand different local organizations, reaching 146,000 children in three-fourths of all cities of over 50,000 population and 37,000 children living in the rural areas of forty-two states.

Although physicians advocate vaccination in the first year of life, it was found in the average city no vaccination had been given to children of this age. At one year of age three per cent of children in the average city have been vaccinated and the proportion rises until at five years of age about a third (30 per cent) of children have been protected. The survey discloses that twenty-one per cent of all city children have been vaccinated against smallpox and only seven per cent of all rural children. Twenty-one per cent of preschool children, the same proportion as with vaccination, have been immunized against diphtheria in the urban areas covered in this survey. Only a slightly smaller proportion, eighteen per cent, have been immunized in the rural districts. Three Kansas cities, Kansas City, Wichita and Topeka are included in the report.

The book is an invaluable addition to the literature of the preschool child.

—E. G. B.

Certified Milk. Proceedings of the American Association of Medical Milk Commissions, Inc., and Certified Milk Producers' Association of their Annual Convention held in 1931.

Contains the various reports of the several committees of the two associations, and papers delivered before the conventions on such subjects as "Septic Sore Throat," "Mineral and Vitamin Requirements of Dairy Cows," "The Relation of Research to Progress," "Factors Controlling Calcium Metabolism," "Should Certified Milk be Permitted to be Sold Raw or Pasteurized," "Some Recent Advances in Our Knowledge of Nutrition," "The Diagnosis and Control of Mastitis," and "The Control of Bang's Disease." The constitution and by-laws of the two associations are also printed in this volume.—T. I. D.

Medical Clinics of North America, issued serially, one number every other month. Vol. 15, No. 4, (Boston number, January, 1932) octavo of 268 pages, with 18 illustrations. Per clinic year, July, 1931, to May, 1932, paper, $12.00; cloth, $16.00, net. Philadelphia and London; W. B. Saunders Company, 1932.

This Boston number of these well-known clinics will be found especially interesting to the general practitioner. Dr. Geo. R. Minot has a clinic on Chronic Arthritis, with remarks concerning Prevention and Treatment. Dr. J. H. Means, a clinic on Exophthalmic Goiter, with special reference to treatment. Dr. Wm. H. Robey discusses Tonsillectomy Versus Medical Treatment in Cases of Rheumatic Fever. The list of interesting subjects and eminent clinicians displayed in the table of contents of this number is too long for the space here available. Suffice it to say that the busy physician who wishes to be instructed, in a very interesting way, in his own study at home should avail himself of the facilities afforded by these bi-monthly volumes of up-to-date clinical presentations.

—O. P. D.

A Text Book of Clinical Neurology: By Israel S. Wechsler, M.D., professor of clinical neurology, Columbia University, New York; attending neurologist, Neurological Institute and The Montefiore Hospital, New York City. Second edition, revised; 759 pages with 142 illustrations. Philadelphia and London: W. B. Saunders Company, 1931. Cloth, $7.00 net.

Doctor Wechsler, an assistant professor of Clinical Neurology in Columbia University, New York, and an attending neurologist at Montefiore Hospital in New York, has given us the second edition of this his text book for clinical neurology, just five years after the first edition appeared. This book is one of the best general texts on Clinical Neurology and his second edition is very much improved even over the first. Doctor Wechsler is one of the rather rare combination of an unusually good neurologist and a progressive psychiatrist. While there is only a small section in the book devoted to the Neuroses, he has chosen wisely to include them in the field of neurology although he himself regards them as belonging to the field of psychiatry.

The book contains a systematic presentation of the method of examination followed by diseases of the spinal cord, the peripheral nerves and the brain. His new edition is much better arranged than his first edition, chiefly because he has departed from the older system of classification used by Oppenheim and adopted

a much more satisfactory grouping of the diseases according to the anatomical distribution. In doing this he has re-arranged much of what was in the earlier edition, for instance, placing the diseases of the cranial nerves under peripheral nerves where they belong, placing tabes and syphilitic meningomyelitis under neurosyphilis rather than under diseases of the spinal cord, and many other similar changes.

In all he has added thirty-four pages of new material in this edition, in addition to the many re-arrangements. Chiefly among these new additions has been a section on encephalopathy, new material on brain tumors, the recent research in the epilepsies and convulsive states and a few new neurological syndromes.

The book is beautifully written, both as to diction and continuity. There might profitably be more illustrations though there are a good many presented, mostly pathological sections. After each chapter he includes a brief but well chosen list of references on the subjects presented. There is a well arranged, adequate index.—W. C. M.

The Story of Medicine, by Victor Robinson, M.D., Albert and Charles Boni, New York, publishers; 486 pages, price $5.00.

The author among the first to specialize in the history of medicine, founded the first monthly journal on the subject in this country, and is now professor of the History of Medicine in Temple University School of Medicine, Philadelphia.

A fascinating story of medicine from the stone age to the present day.—E.G.B.

Psychology and Psychiatry in Pediatrics, The problem. Report of the Subcommittee on Psychology and Psychiatry White House Conference on Child Health and Protection. The Century Co., New York, publishers; 146 pages, price $1.50.

This report considers the important question, Should the medical practitioner attempt to give advice when difficulties threaten the satisfactory development of personality in a child under his care? Although the report does not urge all physicians to attempt to become expert in the fields of psychology and psychiatry, it states the opinion that adequate physical care of the child cannot be given without attention to whatever intellecual and emotional difficulties may be present, and concludes that when trouble arises and the individual child is in distress a well-informed and alert physician is the obvious adviser.—E.G.B.

Body Mechanics, Education and Practice. Report of the Subcommittee on Orthopedics and Body Mechanics of the White House Conference on Child Health and Protection. The Century Co., New York, publishers; 166 pages, price $1.50.

A report of the searching investigation made for the White House Conference on Child Health and Protection into the relation of body mechanics and posture to the health and wellbeing of children. "There is positive evidence," the report says, "to prove that not less than two-thirds of the young children of the United States exhibit faulty body mechanics," and this condition is likely to continue into adult life. The detailed recommendations and the suggested program of corrective exercises presented will be of value to all those concerned with the care and training of children.—E.G.B.

Courts and Doctors, by Lloyd Paul Stryker; 236 pages, 8 mo., cloth cover. The MacMillan Company, New York, publishers. Price $2.00.

The author, for many years general counsel for the Medical Society of the State of New York and having personal charge of the legal policy of the society and the defense of its member who were sued for malpractice, outlines the essential principles of law which govern and affect the physician in his work. Advice and counsel are offered which will be instrumental in protecting physicians against unwarranted attacks upon their professional character.—E.G.B.

Cancer, What Everyone Should Know About It, by James A. Tobey, Dr. P. H.; Alfred A. Knopf, New York, N. Y., publisher; 310 pages, price $3.00.

An able discussion of the nature of cancer, its history, the various types and locations of cancer and their danger signals, heredity, causes, treatment, prevention and control, various cancer cures and false cures and the anti-cancer movement. One of the chapters includes an interesting discussion of famous persons who were victims of cancer. Dr. Joseph Colt Bloodgood in an introductory says: "No

one can read this book without obtaining a comprehensive realization of the whole cancer problem and his own personal part in it. Application of the reliable facts so ably set forth should result in a real decrease in the mortality and suffering from cancer. . . ."

This book should be of interest and value to every adult reader.—E.G.B.

Surgical Clinics of North America. (Issued serially, one number every other month.) Volume 12, No. 1. (Chicago Number—February 1932.) Octavo of 240 pages. Per clinic year (February 1932 to December 1932), paper $12.00; cloth, $16.00 net. W. B. Saunders and Company, Philadelphia and London.

The Chicago number contains a variety of exceptionally interesting clinical material. Dr. Arthur Dean Bevan presents a case of abdominal actinomycosis; one of the perforating peptic ulcer of the duodenum and with Dr. Donald P. Abbott the management of a difficult case of penetrating gastric ulcer, high up on the lesser curvature. Dr. Edmund Ryerson presents a case of cerebral spastic paralysis; one of a fractured femur in a child, and an elbow deformity from an early subluxation. Dr. Kellogg Speed presents several cases of peripheral nerve lesions and the correct method of treatment. Dr. Frederick B. Moorehead demonstrates the use of cartilage transplant and tube grafts in cases of lesions of the jaw, nose and teeth, in addition to two cases of congenital cleft lip and palate. Dr. Herman L. Kretschmer shows the proper handling of benign hypertrophy of the prostate. The surgical treatment of early pulmonary tuberculosis is presented in the clinic of Drs. Carl A. Hedblom and Willard Van Hazel. Dr. Loyal Davis presents several cases of intracranial meningiomas. Dr. Golden L. McWhorter presents in his clinic, some interesting work in bile duct reconstruction. Other interesting material is presented by Drs. Edmund Andrews, Hugh McKenna, George E. Shambaugh, Frederick Christopher, Albert H. Montgomery, Edward L. Compere, Elliott Stevenson Denny and LeRoy Hendrick Sloan.—M. B. M.

Varicose Veins, With Special Reference to the Injection Treatment, by H. O. McPheeters, M.D., F.A.C.S., Director of the Varicose Vein and Ulcer Clinic, Minneapolis General Hospital; Attending physician, New Asbury, Fairview and Northwestern Hospitals, Minneapolis, Minn. Third revised and enlarged edition. Octavo of 285 pages. Illustrated with 62 halftone and line engravings. F. A. Davis Company, Philadelphia. Cloth, $4.00.

In this third edition the author has given a most detailed and up-to-date treatise on the subject of the injection treatment of varicose veins. In this volume is included the indications for, the technique of, the results of the various sclerosing solutions used, and the complications in such methods of treatment. There has been added an important chapter on "The Causes of Failure in the Injection Treatment of Varicose Veins," and the chapter on elephantiasis has been expanded to include "the elephantoid states due to lymphatic obstruction."—M. B. M.

DEATH NOTICES

Arthur Benjamin Cullum, Chanute, aged 67, died January 24, 1932, of angina pectoris. He graduated from Kansas City Homeopathic Medical College in 1894. He was a member of the Society.

Homer Michener, Wichita, aged 68, died January 5, 1932, of angina pectoris. He graduated from Eclectic Medical College, Cincinnati, in 1890. He was not a member of the Society.

David F. Ingles, Wichita, aged 74, died January 28, 1932, of chronic nephritis. He graduated from Medical College of Ohio, Cincinnati, in 1881. He was not a member of the Society.

Luther A. Corwin, Goff, aged 71, died February 24, 1932, of heart disease. He graduated from University Medical College of Kansas City, Missouri, in 1890. He was not a member of the Society.

Sara E. Greenfield Stephenson, Topeka, aged 57, died February 19, 1932, at Stormont Hospital of lymphatic leukemia. She graduated from University of Illinois College of Medicine, Chicago, in 1900. She was appointed bacteriologist for the Kansas State Board of Health and served in that capacity from

1903 to 1920. Prior to her appointment she had practiced medicine at Sabetha, Kansas. She was not a member of the Society.

KANSAS MEDICAL AUXILIARY

MRS. J. THERON HUNTER, Topeka
Chairman of Publicity

Your national chairman of Press and Publicity urges all Auxiliary women to read the delightful letter from our national President-elect, Mrs. Walter Jackson Freeman, appearing every month in the Bulletin of the American Medical Association. If your husband has not brought home the recent Bulletins, remind him of that duty.

Mrs. Freeman's letters are inspiring, informing and helpfully suggestive.

When a book review is desired on the programs of Auxiliary meetings it is gratifying to note what wholesome and fine books are found particularly fitting for the purpose: The Medicine Man in Texas, Magnificent Obsession, Dr. Serocold, Victim and Victor, The Microbe Hunters. The last named might well be incorporated in the most substantial educational program.

The desire of our Public Relations Department to have Auxiliary women taking active part in other women's organizations finds fulfillment in every state. Here are a few outstanding illustrations. The Program Chairman of the Oregon Auxiliary, Mrs. Edward A. Pierce as chairman of the Health Committee, Portland Federation of Women's Clubs. The same organization has made Mrs. John G. Abele chairman of the Anti-Narcotic Committee. In Missouri the State Auxiliary President-elect, Mrs. David S. Long is the President of the Missouri Federation of Women's Clubs. Mrs. Martin Nordland, President Minneapolis Auxiliary is the Public Health Chairman, Fifth District Minnesota Federation of Women's Clubs. In California Mrs. Louis H. Dyke, the State Auxiliary Chairman for Press and Publicity is the President Oakland Branch of the Needlework Guild of America, and our own Mrs. C. B. Van Horn is on Health Committee of Kansas Council of Women.

The West Virginia Auxiliary reports activity in public health education, radio health talks, extending the circulation of Hygeia, and interest in crippled children.

The Kansas Auxiliary Chairman of Press and Publicity will be glad to have me tell you that in addition to valuable scientific articles, the Kansas Medical Journal carries a series of charming "Letters from a Kansas Doctor to His Son in College," by Dr. John A. Dillon of Larned. Perhaps these letters go far afield from medicine, but there are resulting forces at work, which make it easy for the subscriber to "take those Journals home to his wife." So the Auxiliary is twice blest in these letters.

The Delaware Auxiliary had the privilege of having Mrs. Walter Jackson Freeman address them informally, December 1, on the work of the hospital in Munich which she had an opportunity to observe so closely last summer. At the same meeting talks were given on the life of the visiting nurse, and on the peculiar menace of tuberculosis to the young adult.

In the report in Northwest Medicine for January of the State meeting of the Oregon State Medical Society, October 22-24, 1931, the Executive Secretary makes this entry:

"LIASON WITH OUTSIDE GROUPS"

"An important feature of the year's progress was the marked increase in the number and scope of our contacts with outside lay and professional groups. These contacts will undoubtedly be the means of immeasurably increasing the influence of scientific medicine among large sections of intelligent and progressive people.

The Woman's Auxiliary is playing an important part in establishing these new relationships. Two active Auxiliary members were appointed to the two important health chairmanships in the Portland Federation of Women's Clubs.

1809, before the days of any anaesthetics, underwent voluntarily the first ovariotomy. The courage and skill of the surgeon, Dr. Ephraim McDowell, was met by the courage, faith, and self-control of this noble woman.

The literally thrilling story of this operation has been placed in the hands of every state Auxiliary president. May some plan be evolved by which the story may be known by every Auxiliary woman in America.

A monument to Jane Todd Crawford should be to all of us a symbol of courage, will-power, self-control and faith, qualities which she exemplified; and to share in the creation of this memorial should be esteemed a privilege.

In Missouri there are encouraging advances in organization, health education, public relations, and Hygeia subscriptions.

Hygeia received from one county Auxiliary in December 115 five-months subscriptions for rural and village schools. Some assistance came from last year's Christmas seal sale fund. Many other counties got busy earlier and did as well and some much better.

KANSAS CITY SOUTHWEST CLINICAL SOCIETY

HEART SYMPOSIUM

An added feature of the activities of the Kansas City Southwest Clinical Society will be symposia on vital medical subjects to be presented each spring in Kansas City, Missouri.

The 1932 meeting will be a Heart Symposium to be held April 19 and 20 at two of the Allied Hospitals. The course will occupy two days, consisting of thirty-two half-hour classes covering the various heart conditions. A complete picture of heart diseases will be presented together with patient demonstration, electrocardiograms and x-ray plates of various heart conditions. This symposium has been made possible without charge to the visiting doctors through the various activities of the Society and will be put on as a part of their economy program. The completed program will appear in the March issue of the Monthly Bulletin of the Kansas City Southwest Clinical Society.

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ORIGINAL ARTICLES

METHODS OF HANDLING PATIENTS AT THE STATE SANATORIUM*

C. F. Taylor, M.D.
NORTON, KANSAS

I suppose that every day I get a letter or a call from someone in the state requesting knowledge as to how to get a patient into the institution. Hence, today I want to talk not only on the means of admission but the ordinary routine the patient goes through after entry there. There is hardly one of you but who has had, or will have, some request from someone about the institution; hence, you should know how to get patients in and somewhat of the difficulties that beset them after they are there.

All patients must go through at least three agencies: the home doctor, the county health officer and the county commissioners. We furnish blanks on request to anyone who is interested. This includes printed instructions as to the method of getting patients into the institution. All people who enter, must have these blanks filled out by the three agencies mentioned, regardless of whether the patient pays the fee himself or not. These blanks after being filled out are to be sent to me and they are filed in the order in which they are rereceived.

By state law, the patients are admitted in the order that these applications are received; nevertheless, in actual practice there are a few cases that should be given preference: (*a*) those that have children in the home in which they live, (*b*) those that have no home and live in some public hotel or rooming house, (*c*) those who cannot pay for themselves should have preference over those who can pay, as the latter can build up temporary safeguards where they are. The papers are then filed, and in due course of time the patient is ordered in. Do not send the patient unless you receive an order to do so. We must be sure first there is a bed available. If possible, always send the patient by train, in a berth or on a stretcher if it can be done. Despite good roads, a lengthy trip in an auto is not good for the patient. They arrive too tired out and it takes them days to recover.

Our work at the institution is founded upon one idea, that is REST and plenty of it. This is the main stay in the treatment of tuberculosis. Everything else must be subordinated to this one idea. We have definite hours for bed rest. We like to instill into the patients regularity of habits which will stay with them. We must have a fairly strict routine; hence, all patients must go to bed when they first enter the institution. They stay in bed at least until we have determined their condition. The adults are entered at a receiving ward in the hospital building. There we have built an *x*-ray, general laboratory and examining room, to which the patient can be taken on a stretcher cart with very little exertion on his part. They are told not to exert themselves in the slightest. Everything is done to reduce the patient to a basic level as far as exercise is concerned and keep him there until we have time to complete a rather thorough physical examination, and then as much longer as is indicated.

The patients are told that the examination is not a simple thumping or listening to the chest with a stethoscope: but includes history and physical examination of the entire body, nose, throat and all. Laboratory tests are made which include *x*-ray, possible fluoroscope, tuberculin reaction in doubtful cases, sputum, urine, Malta Fever, Wassermann, etc. Daily records are kept of temperature, pulse, and weekly records of weight.

*Read before the Annual Meeting of the Kansas Medical Society, Manhattan, Kansas, May 5, 6 and 7, 1931.

Hence, an examination really takes a period of time approximating two weeks, before we can get an adequate idea of what is the matter with the patient. As far as the actual physical examination is concerned, unless there is an emergency, this is rarely done until we are satisfied that the patient has recovered from the exertion incidental to the trip to the institution. This examination is as complete as it is possible to make it, so that we can get a comprehensive idea about the patient. Approximately every Monday night these are brought up before my staff and discussed. At that meeting we have not only the sanatorium staff of medics but the head nurse, dietitian, *x*-ray technician, occasionally a few visiting doctors; in other words, anybody that has any direct or indirect interest in the case. Here the final diagnosis is established and in turn a letter is dictated to the home doctor and county health officer, reporting what we find. In case the findings are not in accord with a reasonable diagnosis of tuberculosis, the diagnosis is held up and the report is sent to the home doctor that way. Please understand that in case we hold up the diagnosis in a case which one of you has sent in, we still leave this diagnosis open and in the end if there is a reasonable doubt, a tentative diagnosis of tuberculosis is made, not only to safeguard the patient but the home doctor. We expect, and this is a common experience in every sanatorium where standard specifications for diagnosis have been established, to find between 14 and 20 per cent of the entering cases do not have tuberculosis.

In the meantime, the patient is kept in bed. We have arranged things at the present time so that we can keep the patients in bed as long as it is necessary. The story of when to get a patient out of bed is a long one. This has to do with the type of tuberculosis, the age, and complications that a patient has. In general, the exudative type must stay in bed much longer than the fibroid type. The patient over thirty-five can be gotten up much sooner than the person under thirty-five. At any rate, the change from absolute bed rest to four or five hours of work is a slow process. If a mistake is made I prefer keeping the patient in bed six months too long rather than let him up too soon.

We divide the sanatorium into three parts: the hospital, the semi-hospital and the ambulatory pavilions. The hospital is used for all entering cases. There they can be kept at absolute bed rest until they have reached a certain phase in their cure. The activities there range from absolute bed rest to the ability to go to the bathroom as indicated. They are kept at absolute bed rest until they get over their toxemia. When they are going to the bathroom, there should be no night sweats, weight should be approximately normal, appetite good, temperature normal or practically normal, no pleurisy, and cough should be greatly diminished. Until they reach this point they are kept in bed. When they get ready to leave the hospital they must in general be able to take an interest in life, must be on the upgrade, with retrogressive symptoms instead of stationary or progressive symptoms. Physical examination and *x*-ray may or may not show much, but symptomatically they must be better. Temperature and pulse must be practically normal. It may take months of absolute bed rest in the hospital to attain this. Their getting up is a matter of prescription on the part of the doctor who is waching them. This is accomplished by means of charts issued to the patient.

The next step is to move this patient to a semi-hospital pavilion. These have been arranged so that at the present time the food is supplied by means of food conveyors and the patients have tray service. These cases must be of such a type that they do not need night care. Their minimum exercise is perhaps the ability to go to the bathroom —their maximum to go to the dining room three times a day. The variation in exercise between these two extremes again is a matter of prescription on the part of the attending doctor at that particular pavilion. The amount of exercise is determined by him by means of the bimonthly examination, nurses record, *x*-ray, etc. It is a matter of regular pre-

scription every Monday morning. By doing this we can watch very carefully the amount of work a patient does and how he responds to it.

The next step is the ambulatory pavilion. These patients are better physically than in the semi-hospital pavilions. They are able to get up and around to a certain extent. Their minimum amount of work is the ability to go to the dining room three times a day—the maximum perhaps six or eight hours of work, doing something around the institution. The various grades of exercise between these two extremes are fairly well established and again is a matter of prescription by the doctor attending that particular pavilion. The patient who has a six hour prescription chart is getting at least twelve hours of bed rest out of the twenty-four hours.

The old idea that a patient should recover from tuberculosis in six or nine months has borne a lot of fruit in the return cases we see, and the breaks that occur later in the disease; and we have finally come to realize that it takes approximately five years to overcome any amount of tuberculosis, and this in a favorable case. They may or may not have symptoms all the time, probably will not. They will feel good, nevertheless the character of the disease is such that relapses are common and we must consider that the patient is susceptible to these relapses for at least five years after he has been found quiescent.

Taking the cure is really a mode of living, it is a habit of life; and the more one can teach this to the patients, the more of these patients will return to active life and economic usefulness. Taking the cure involves a radical change in the habit pattern of the individual. He must learn to "chase," must learn this so extensively that when he gets out of the institution the habit is ingrained and is not apt to be lost. At the present time we consider five years from quiescence as the time during which a patient should be careful, five years symptom and relapse free before he can consider himself free from tuberculosis. Understand, they do not have to be in institutions that long; their average stay ranges from six to nine months. This is not long enough but at this rate, one can see the tremendous importance attached to the habit formed of taking the cure during the time they are there. If they learn this habit in the institution they are more apt to continue it after they return home.

This brings me down to the management of these cases before they enter the institution and after they go home. As soon as you find a case of tuberculosis put that patient in bed and keep him there until we can order him in. This may take a few months or more. Regardless of how short or how long a time it is, put that patient in bed and when he is ordered in by us, send him in with the least amount of exertion possible.

After they return home from the institution, insist that patients take afternoon bed rest from one to four, at least. You will find that the patient will cut this down and cut it down, and will say he never felt better in his life, etc.; but insist upon that one thing, that he take bed rest at least between one and four o'clock for a long time after he leaves the institution.

The system we have spoken about of getting the patient up gradually is slow and fairly safe. By doing this, we surround the patient with safeguards all the way up to his leaving the institution. Our ideal is to discharge the patients who reach this goal as proved cases. By this I mean they have been tested out by the sanatorium before they leave and can show over a series of months the ability to work, say at least six hours a day with no relapse.

We conduct, or try to conduct, bimonthly examinations. When these are done, reports are sent to the home doctors, stating the results, either bad or good, that have been obtained. Some of you have received these reports.

Children coming into the institution are handled a little differently. The open case of tuberculosis in the child does not need to be isolated from the adult case. The infection type and the non-tuberculous child must be isolated from the adult case as well as from the

other children who have tubercle bacilli in the sputum. Hence, incoming children must be isolated from the rest of the group and from each other. This blocks off the chance of a diphtheria carrier as well as a carrier of the rest of the childhood diseases. In a few weeks we determine whether this child is an open case or not, whether it is a simple infection or not, or perhaps we find we have a case of something else. We want to be certain that if they have not got tuberculosis when they enter, they will not get it after they enter. The open cases are sent to the hospital.

Ultra violet therapy is used on practically all children. Efforts are made to determine the weight-height-sex standard for these children and we try to bring them up to this. Most of our cases are of this infection contact type only.

At the present time our ambulatory children eat in the main dining room but efforts toward segregation are made not only by having them eat at their own table but by avoiding contact with the rest of the dining room patients, to see that they are not exposed to tuberculosis.

This is the main outline of the routine a patient goes through at the sanatorium. All efforts are made to make the main theme of stay, REST and plenty of it.

At the present time we have approximately 43 pneumothorax cases. I imagine our saturation point in this respect will be about 50 cases constantly taking treatment of this type. These are brought up from one to three times a week as indicated.

Our dietary department has been modernized. We have a few diabetics, many tuberculosis bowel cases and a few tuberculosis larynx cases which need some special diet.

Surgery other than pneumothorax is a thing that has not been worked up at the sanatorium to date. It means either do it there or a 300 mile haul in almost any direction. The present indications are that we will develop it there, but this remains for the future. Phrenisectomy and thorocoplasty are at the present time well established measures but they require very close co-operation between the internist and the surgeon. These cases must be hand picked to achieve results, but this is a step for the future of the sanatorium.

The social activities of the patient are important because they enable the patient to stay in the institution in bed much longer than he otherwise would. We have promoted radio there and while we have no institutional radio, there are several private machines doing this work. We have our own small sanatorium paper and there are church activities, and school the year around for the youngsters. There are talks given by people from town and by the medical group, and all in all they are entertained perhaps enough at the present time. Homesickness must be combated to the limit, not that homesickness itself ever killed anyone, but if it makes the patient so that he cannot eat or cannot sleep and only wants to go home, it is a very harmful agent.

We feel that the main function of the sanatorium, considering the comparatively short stay and the length of time it takes to recover from tuberculosis, is educational. The patient must be taught those habits of rest and exercise that will either enable him to get over the disease, or if this is impossible, will enable him to live with it.

So in closing this talk on methods of handling patients at the state sanatorium, let me enter a plea for better understanding of what the tuberculous patient is up against, what he has to go through mentally and physically in order to get well, so that you as the home doctor and I as superintendent of the State Sanatorium can act together in harmony and to the best interest of the patient.

———℞———

GOING, GOING, GONE!

The teacher was weighing children. As Johnny stepped on the scales, she asked:

"How old are you, Johnny?"

"Going on eight."

"And you, Charles," who was close upon Johnny's heels, "how old are you?"

"Oh, I went," answered Charles puffing out his chest.

SOME PROBLEMS IN HEALTH EDUCATION*

Earl F. Morris, M.D.

HAYS, KANSAS

If we ever really arrive in public health work, it will be largely due to the fact that we have produced an informed public. The gullible public is a health tradition. We denounce the charlatan, the quack, in no uncertain language. Too often we denounce the uninformed layman who is caught in the web so cleverly spun for him by those who wish to exploit him. Seldom do we turn the searchlight of criticism on ourselves and ask just why it is that the average layman is so gullible in health matters. A fair investigation will, I believe, reveal two major defects: first, a medical profession which in the past has not taken advantage of its opportunities for educating the public, and second, a school system which has left health education largely to chance.

We are pleased to note that both the schools and the medical profession are beginning to function in this gigantic task of transforming Mr. John K. Public from an individual who carries a buckeye in his pocket for his rheumatism, to one who believes that infected tonsils, infected teeth, or a pet appendix may be the real cause of his rheumatic pains.

Over the air, through the press, and in the schools the work is beginning. Within the last year the Kansas Medical Society began the publication of a popular health magazine, "Folks," in an attempt to give the public simple, sound facts regarding health and disease. Recently Dr. Haggard of Yale University began a series of radio talks on health. Throughout the whole country health is being placed at or near the top in listing the objectives of education in our colleges and public schools.

My work in this task of imparting health information has been largely confined to the agencies last mentioned, the college and our public schools. This discussion will deal with some of the problems involved. The underlying principles in health education are much the same, whether the work be in or out of the school.

If health education is to be effective, it must strive to accomplish at least three things: first to impart a reasonable amount of information; second, to bring about personal programs of health practice, and third, to arouse an interest in group or community health. Knowledge for knowledge sake does not suffice here. The knowledge must function in a practical way.

Colleges and public schools today are striving to accomplish these three aims in health guidance.

It has been my observation and experience that college and university health departments are divided into two classes, those that place the emphasis on doing *for* the student, the student being for the most part passive, and those that place the emphasis on training the student to take the initiative in his personal health program.

A typical health program in a college which emphasizes doing *for* the student is one which has a course of study offering and in many cases even requiring the student to take courses in hygiene, physiology, bacteriology, physical education, and other health courses which qualify as being standard college courses.

Investigation usually reveals that, although rules of healthful living are discussed fully in classroom work, there is little if any insistence that the rules be practiced by the class members, and there is no regular systematic program of checking up to see if courses really function in producing a higher physical type. It is the old story of faith without works, and theory without practice. Undoubtedly this defect is not confined to health departments.

Such a college gives a complete physical examination to all students entering for the first time. The findings are usually recorded in a rather elaborate manner. Often there is no summing up of findings in the form of a definite health score which the student can study and interpret in terms of the relative efficiency of his body parts and the ef-

*Director of Health and Physical Education, Fort Hays Kansas State College.

*Read at the Twenty-first Annual School for Health Officers and Public Health Nurses, April 11-13, 1932, Topeka, Kansas.

ficiency of his entire body as compared with his fellow students. Seldom does the record definitely point ahead to future evaluations of the same student. Hence, there is no uniform measuring stick, no standard set up, no goal, no challenge to the student. Such an examination invites a minimum of physical defect corrections. This is especially true since the examinations are usually done within a few days, and with the assistance of a group of outside medical men who place no emphasis on the educational side of the work, who know little about health scoring, and are in a hurry to return to their private practice. Often the examining group is not even the same each year, making scoring standards and follow up work even more difficult. A student who recently underwent such an examination said, "The doctors told me that my tonsils were a fright and my nose was worse; also that my posture was bad. I got the impression that I was a physical wreck. They told me to have my tonsils out, although they have never bothered me and I have not had a cold for a year. No other recommendations as to how I might improve were made. I wondered if the doctor who told me to have my tonsils out was in that business himself."

The reaction of this student is typical. The physical examination failed of its purpose because it omitted the educational side. This boy would have liked to know why certain recommendations were made. To expect one who has never had tonsil symptoms of which he is aware and who feels fine to spend a neat sum of money and submit to an operation simply because some stranger advises it, is expecting too much. It is often even necessary to explain why it isn't safe to wait till a dental cavity "hurts" before it is filled. A simple statement of facts means little to the underweight coed who thinks it stylish to be slender.

Students must be told why, perhaps several times and under several different sets of circumstances, by some one in whom they have learned to place confidence. This boy developed an inferiority complex as a result of his examination. Actually, when good and bad points were summed up, he was physically above the average.

This same college usually has a well equipped and efficient dispensary of which it is justly proud. However, instead of spending a reasonable amount of time in health guidance work whose chief aim is to prevent disease, most of the work done is concerned with treating conditions which are already clinical entities. There should be a reasonable balance here. The college dispensary should be regarded more as the laboratory portion of the classroom hygiene courses. Often the two are not closely linked in the student's mind and he regards the dispensary as a necessary dose which must be taken when something drives him there. Certainly the treatment of actual disease is a distinct part of the dispensary duties, but it should not be the major note in the health symphony.

Such a health program as the one described would seem on cursory examination to be a well rounded program. However, when one probes into its core he finds that it lacks the punch of a follow up which demands that the student participate actively to the extent that he strives earnesly to measure up to standards set for him. The student applies the health program in the form of a lotion rather than taking it internally and making it a part of himself. There is an infant feeding formula which states that one may get considerable milk down a baby by pouring it down him with a funnel, but it is probably better to let him nurse it from a bottle. That feeding formula states a fundamental principle in all education—we learn best by doing.

The other type of college health program makes a conscious effort to place part of the responsibility for achieving and maintaining health on the student's shoulders. The theory is that the student learns better by doing and that physical improvement is more continuous and carries over beyond college life.

This college also teaches standard health courses, but keeps constantly in mind the fact that for the most part theory must function in the lives of the students in each class if the work is to be worth while. In such a program those

who teach must be in close touch with student health problems in the dispensary. Their instruction must be largely motivated by student health problems with which they are grappling daily. The life of the instructor must be so dovetailed into student life that often the high point in class discussion is inspired by the knowledge of specific health problems before him. In such a set up of instruction the student is constantly reminded of his own problems and is constantly seeing his own health score in his mind's eye.

This second college also does physical examinations but the examinations emphasize defects and problems most common among students and they do not stop at the freshman year. Each student in school is given a complete physical examination at the beginning of each school year. When findings warrant it, as happens in about half the students examined, a follow up examination is made at the mid year. In many cases intermediate consultations every few weeks are had. As nearly as possible the examinations are given by the same group each time and this group is in constant touch with the student body. All use a uniform key and standard and the findings in each case are summed up in the form of a definite health score which is even more definite than a grade in rhetoric since the score card shows at just what points the student has lowered his rating. Moreover the student is given the distinct impression that he is expected to raise his health score. In fact there are spaces on his large score card for two examinations each year he is in college.

This college also has a dispensary. It is necessary that many ailments be treated there. But many of the dispensary visits are by students not actually sick. They come for help in the many problems of student life which often lead to health problems. Some of these are social problems, some are emotional problems, some are moral problems, some have to do with study loads, others with group problems having a bearing on health, and others with incipient or suspected disease. Students often come for advice and help in improving their general physical condition in anticipation of the next regular health examination. In other words, the college dispensary is a health laboratory, a clearing house for health problems. Preventive health work is given the same consideration as the treatment of serious disease.

In discussing the two types of health programs I have kept constantly in mind college health programs with which I have been identified. Any implied criticism has been of my own work. I have participated in departmental health work which stressed doing *for* the student. It was all that I have pictured in the first example. Actual results were meagre. We kept no record of physical defect corrections but they were few. This program lacked the punch of a follow up which insisted on results.

During the past three years at the Fort Hays Kansas State College I have tried to profit by former experience and we have endeavored to approximate the college health program in the second example. We have not succeeded at all points, but we are convinced that results are much better than in the former work.

In order to be concrete I shall give some statistical facts concerning our work.

First it will be necessary to explain our scoring system. Students are given numerical health scores which correspond to letters. This is in keeping with our system of grading in other subjects except that there is not the wide range of difference between the highest and the lowest grades. We make this difference because young people entering college, due to the rebounding qualities of youth, are more closely grouped physically than they are mentally. The majority of our students at the beginning of the school year with the relatively large freshman and sophomore classes score between 89 and 91 inclusive. From 89 to 91 inclusive we designate a C grade. Those scoring from 88 on downward are distinctly below the average and are designated D students. We have not decided just yet when one can be said to fail in health providing he is able to continue in school. A score of 92 to 93 inclusive is a B rating

and those scoring from 95 to 100 inclusive are considered A students. Students scoring A are relatively scarce just as they are in other subjects. The actual top here so far is 98.5 and only one student has made that score. Perhaps a half dozen have scored 98. I have never scored a subject whom I considered perfect. This range of scores makes a difference of 7 points between the lower limits of a C grade and the lower limits of an A grade. This range is perhaps 4 or 5 points narrower than is found in other subjects. As stated before, it is determined by actual conditions. Then too, if the range is not too wide, one is disinclined to change a score unless there is a real change in physical status. We feel that in health scoring it encourages more exact work on our part. A difference of one point means a quite definite piece of health work. According to our system it represents the price of a fifteen dollar pair of glasses at local prices. It is the equivalent of about ten dollars worth of dental work. In an underweight case it represents approximately eight dollars and ten cents worth of whole milk extra per semester plus the added effort of rising a half hour earlier each morning in order that breakfast will not be eaten in haste.

In order to ascertain whether the usual change in score from examination to examination was within the limits of error, a series of cases whose scores could not be recalled were reexamined within a short time of their first examination and before corrective measures had been attempted. The amount of error was less than half the usual change from year to year. As we continue with the same system we hope to make this error even smaller. Since we use the same scoring key for all students, this should be possible.

We recently made a study of 200 histories in our current file. Over 100 of these had been examined four times, 60 had been examined three times, and about 40 had had five or six examinations. The only requirement entering into the selection of these cases was that they have on file there three or more examinations. The group averaged very close to four examinations over a period of two years. This means two complete examinations at the beginning of the year and two mid-year follow up consultations in which progress on recommended corrective work was noted as well as conditions likely to lower scores within a semester's time. Most of these students are now either finishing their sophomore year or beginning their junior year. Some of them are seniors.

At the first examination the group averaged a C rating, having an average score of 90.1. The last examination showed a B rating with an average score of 92.24. For two years of work that meant for each the equivalent of over twenty dollars worth of dental work; it meant the expense of a tonsillectomy in a number of cases; for the underweight cases it meant an average gain of about ten pounds, which probably meant the expenditure of approximately twenty dollars additional for the foods usually omitted or eaten sparingly in underweight cases. Of course it meant a change in the eating and sleeping habits of many of them. Other cases were out no expense but corrected defects in corrective classes, at the College dispensary, and by correcting bad programs of personal hygiene in other ways.

In this series there were 18 cases who lost an average of 2.41. One of these students who lost 5 points has enamel which will not hold fillings and can only have teeth extracted as they become a menace. Within a few years he will have to get a complete set of plates. Nothing can be done just now but his score is added in our net gain as are the scores of the other losers. Another who lost 1.5 has been a diabetic for years and has trouble in maintaining her weight. Another is a possible tuberculosis contact case. Several others have had such intervening misfortunes as seemingly unavoidable acute infections and are on their way back up the incline. Ten of these losing cases are definitely not trying. Some are actually uncooperative. We have found in other check-ups that about 9 percent lose some ground and of this 9 per cent a little

over half, or 5 per cent are in the proverbial position of the duck having water poured on its back. It is interesting to note that 90 per cent of these back sliders are either overweights who love to eat or are underweights who think it stylish to be thin.

Each year a chest specialist spends a day on our campus working with students whom we have selected by previous examinations. Most of the students included in this special clinic belong to the underweight class.

A study of our statistics for the year 1931-32 shows the incidence of some of the leading defects as well as the percentage of corrections following recommendations. Out of a student body of slightly over 600 there were 215 who had physical defects that justified a follow up mid year examination. This does not mean that only 215 students had physical defects. It means that number had defects which were definite enough that we did not think it wise to wait a whole year for a second scoring.

In this group of 215 students there were 93, or 15 per cent of our entire student body, to whom we had recommended weight corrections. There were 77 definite corrections, or about 83 per cent. There were 68 students, a little more than 11 per cent of our entire student body, with dental defects. There were 62 corrections, or 91 per cent. The percentage of dental corrections in 1929-30 was 88. Fifteen students, 2½ per cent of our entire student body, needed glasses, and 15 pairs of glasses were purchased. This, of course, was 100 per cent. There were 13 students who had correctable ear defects and 11 corrections, the percentage of corrections being 84. Tonsil corrections did not run so high due to the fact that they mean an operation, hospitalization, and loss of school time. Also, a tonsillectomy means considerable expense. Most of these are deferred till the following summer. Out of 21 students, or about 3⅓ per cent of the entire student body, to whom we recommended tonsillectomies, 8, or 38 per cent, have some how found time and money to have the work done since school began. Before the depression this percentage was somewhat higher.

The college does not pay for dental work, glasses or surgical work. This entire expense is borne by the student. Also the weight corrections, most of which are for underweight, require extra expense for more milk and better diets in general. These corrections, therefore, should be a fair index of real student attitude. Postural, orthopedic, and certain other corrections are done under the supervision of College instructors or the College dispensary, and cost the student only his regular semester's health fee. The percentage of corrections in these conditions runs from 66⅔ per cent to 90 per cent.

We attempt to apply the principle of the follow up in our school hygiene classes. In these classes we assist students who have already worked out personal health programs for themselves, in working out health programs suitable for the average school room. Among other things, the usual physical defects found in school children are studied. Each member of the class is required to work with our nurse in the public schools actually examining school children and applying the theoretical program. When these students go out into the field to teach we keep in touch with them, and they tell us what they are actually doing in health work. Thus we ascertain how practical our plans are. The reports we receive indicate the interest in community health on the part of our outgoing students.

If I were asked to point out working principles in our plan which might be worth emphasizing in public health work in general, I should list the following:

1. A very basic part of all health work is to produce an intelligent public.

2. As far as possible people and communities should be encouraged and even required to actively participate in public health work. They learn best by doing, their interest is held, and the work carries over.

3. Definite standards and goals should always be set in any public health enterprise. The public likes a measuring stick which is definite. It encourages effort, and reaching the goal constitutes

a reward in itself. That is why someone once thought of head marks. I still think their use is sound pedagogy.

4. Never neglect to follow up. Even though it means covering less ground, *always follow up and through.* If one could have a proposition or plan laid before him once in such a way that he would adopt it and it would not need reemphasis, there would be no such thing as advertising in the field of business. But the human mind is not so constituted. Any one who fails to definitely follow up, loses.

5. Do not grow weary of repetition. There is a "thrill in monotony" if great things are at stake. One has but to look about him to prove this. It is in the very nature of things that repetition achieves ends and brings satisfaction. It is true in nature's inanimate world and it is true in the world of living, moving things. If we are to accomplish great things in health, we must often repeat, and there must be joy in the repetition.

VINCENT'S INFECTION

Analysis of twenty-six hospitalized cases

C. Alexander Hellwig, M.D.
WICHITA, KANSAS

In spite of their importance, mouth diseases have not yet reached the stage of definitely established basic pathology that other parts of the body have attained. This may be due to the fact that the oral cavity is not the domain of a specialist and that the responsibility of diagnosing and treating mouth diseases is divided between the internist, general surgeon, dentist, laryngologist, pediatrician and dermatologist. None of them is able to cover this complex field thoroughly and in no other part of the body are more wrong diagnoses made.

According to Bloodgood, the vision of the dentist rarely goes beyond the teeth and he is mainly concerned with mechanical problems. The injustice of this statement is at once apparent, if one considers what valuable information the dental corps of the army furnished on Vincent's infection. Before trench warfare in France, in 1914, very few members of the medical profession were familiar with this disease, which was described as early as in 1894. During the Great War, trench mouth was more common than were typhoid and malaria during the Spanish War and the dentists in the army very quickly recognized it.

Since the war, Vincent's infection appears to be steadily on the increase among enlisted men as well as in civilian life. While this fact may be attributed partly to a better diagnosis, it is felt that the higher incidence is a real one and it is explained with overcrowding, overheating in winter and the increasing number of large audiences in small, badly ventilated rooms and halls (Bloodgood).

BACTERIOLOGY

For the pathologist, a more fascinating subject than Vincent's infection could not be found owing to difficulties and variations of opinion. In textbooks it is regarded as an acute infectious disease, due to the combined action of a spirochete and fusiform bacillus. Many points, however, remain obscure and the literature on the subject is scattered and more or less confused.

Opinion is divided as to whether the spirilla and fusiform bacilli are totally distinct germs, living in symbiosis, or whether they are merely different forms of the same organism (Tunnicleff). While some authors deny the existence of these organisms in normal mouths (Stitt, Keilty), the majority regard both germs as constant inhabitants of the oral cavity. Certainly, when one makes routine smears from mouths, the organisms will be frequently found without any visible reaction of the mucous membrane.

Different species and varieties of mouth spirochetes have been described and the question arises, whether the spirillum found in Vincent's infection is a specific organism, apart from the forms so often found in normal mouths. Noguchi probably knew more about spirochetal forms than anyone else, but as far as the mouth is concerned, he also left us at the halfway mark. Until such time as a definite and satisfactory method for the isolation and cultivation

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of mouth spirilla is accomplished, it would simplify matters if all spirilla forms in the mouth other than Trepanoma pallidum were included under the general grouping of Borellia vincenti. From the constant histopathological picture and the same topographic relationship of organisms in lesions of ulcerous stomatitis, it may be assumed that the spirilla play the leading role, since in the invaded tissue they are always in advance of the fusiform bacilli. Unfortunately, the final proof is entirely lacking that these organisms are the essential or only cause of Vincent's infection, because Koch's postulate—the experimental production of the disease by pure cultures of spirochetes or fusiform bacilli—has never been fulfilled so far. Only by injecting material from membranes or ulcers of Vincent's infection, have putrid processes been produced under the skin or in the pleural cavity of rabbits and guinea pigs.

The association of spirilla and fusiform bacilli in the body has been noted by many observers, but little attention has been given to their more common normal habitats about the body. In 32 per cent of human tonsils removed, I found foul smelling, gray or yellow granules lying in the crypts, never in the tissue proper. In these masses many typical fusiform bacilli and coarse spirochetes were present. These organisms corresponded in their morphological behavior exactly to those described in Vincent's infection.

It has furthermore long been known that fusiform bacilli and spirochetes exist in large numbers about the teeth. Indeed, spirilla forms were among the very first microscopic organisms seen by the human eye, since Leeuwenhoek in 1683 observed and described them in tartar removed from his own teeth. Especially are they numerous in teeth with abundant deposits. It is quite impossible to distinguish a smear made from the interdental space, from one made of tonsil granules. From such material fusiform bacilli may be cultivated anerobically in tissue mediums which yield a most putrid and very typical odor.

A third locality for the growth of Bacillus fusiformis and spirochetes is about the genitals, namely in the smegma under the prepuce in the male and near the clitoris in the female. Brams has found them in 51 per cent of specimens of smegma taken from the preputial secretions of 100 normal uncircumcised adults. As a rule they are present most often and in largest numbers in the secretions of persons with long foreskin who rarely cleanse these parts.

A possible fourth locality for the existence of these organisms is the gastrointestinal canal. Here spirochete forms have been noted several times, but I know of no observations on the existence of the Bacillus fusiformis in the normal intestines.

PATHOLOGY

The knowledge of the normal habitats of the spirilla and fusiform bacilli about the body is essential for the right understanding of the various putrid and gangrenous processes in which these organisms play a prominent role. The largest number of such processes begin about the pharynx and mouth and they seem dependent on the tonsils and teeth as distributing foci. Vincent's angina and acute ulcero-membranous gingivitis apparently represent only different localizations of the same disease process. Their clinical picture differs only according to the different anatomic structures involved. The membrane—which in reality is a slough of the mucosa—and the resulting ulcer is due to the proliferation of the two organisms in question after their entrance into the tissue. In the invaded tissue, the complete absence of a leucocytic reaction is conspicuous and conforms to the blood picture of uncomplicated Vincent's infection. The number of neutrophile leucocytes is never elevated in the peripheral blood, quite often I have noticed even a low white count with a relative increase in lymphocytes.

The presence of many pus cells in a smear from a mouth ulcer, would rule out a true Vincent's infection and indicates an infection with pyogenic organisms, either primary or as complication. There is much disagreement concerning the etiological relationship between Vin-

cent's organisms and pyorrhea alveolaris. While the majority of authors make a clear distinction between Vincent's infection and suppurative periodontitis, Keilty and others maintain that trench mouth represents only an acute flare-up of pyorrhea. Without entering into this controversy, it should be emphasized that fusiform bacilli and spirochetes occur almost constantly and in large numbers in the pockets of pyorrhea. Therefore these organisms are not without danger and are responsible for at least some of the necrosis that occurs in pyorrhea. Vincent's infection and periodontitis are no doubt connected in a double way. The former is much more often observed in an unclean mouth where pyorrhea is present and on the other hand, the destructive processes, involving the interdental gingival crest—that all too frequently occur in severe attacks of Vincent's infection—may produce a permanent condition followed by chronic suppurative periodonitis.

We have observed a few cases with fetid sputum, teeming with Bacillus fusiformis and spirochete forms, where the clinician expected tuberculosis. The patients recovered promptly after intravenous injections of salvarsan. Infection with these organisms may be—on the other hand—superimposed on pulmonary tuberculosis. Secof reported a fatal case of pulmonary gangrene, due to Vincent's infection, with osteomyelitis of the frontal bone, orbital cellulitis and meningitis.

Putrid otitis media deserves consideration here, since fusiform bacilli and spirilla have been found repeatedly in the foul, purulent discharges from the middle ear.

Fetid smelling infections of the skin have been reported in which the source of infection was from the organisms about the teeth. Hulgen observed acute partial gangrene of the finger of a girl who habitually bit her finger nails. Bacillus fusiformis and spirochetes were demonstrated in the wound and about the carious teeth. I saw a gangrenous finger wound with many fusiform bacilli and spirilla which followed a blow striking the teeth. Vincent himself, a surgeon with the French colonial army in Africa, observed the two organisms, named after him, first in wounds of hospital gangrene (1896). Davis and Pilot have studied a series of cases of erosive and gangrenous balanitis. In the ulcers, spirilla and fusiform bacilli were found by them constantly and in large numbers. The comparative study of the flora of the normal preputial secretions and of the pus from cases of balanitis revealed a striking similarity in both smears, indicating that gangrenous processes in these parts are not necessarily dependent on saliva contact, but may arise locally, particularly in persons with retention of these secretions.

PATHOGENESIS

For the correct understanding of the origin and localisation of Vincent's infection, it is necessary to refer to certain principles of bacteriology. Concerning the general type of bacteria known as opportunists to which spirilla and fusiform bacilli belong, we recognize that they have a definite and striking distribution about the body (Davis and Pilot). For hemolytic streptococci, for instance, the tonsils and the pharynx are the normal habitat in the body and most streptococcal infections occur at or near these sites. Distant infections may occur, but if so they can usually be traced back to these localities as ultimate sources. In analyzing the various putrid processes in which spirilla and fusiform bacilli play a role, we see that they also relate themselves in an interesting way to the normal habitats of these organisms. In this type of infection we are dealing with processes in which predisposing factors no doubt play a very prominent and apparently in most instances the determining role. The occurence of noma in children following various acute and chronic diseases is a well known illustration. During the hunger period in Russia (1918 to 1920), Zinserling observed a large number of gangrenous processes in mouth and intestines which were due to Vincent's organisms. The pharyngeal ulcers accompanying agranulocytosis, and the mouth ulcers, so often present in leukemia,

show bacteriological findings typical for Vincent's infection.

There appear to be some exceptions however to the foregoing statements. In connection with trench mouth, outbreaks and definite epidemics are well known, in which large numbers of normal persons without recognizable predisposition are infected. To explain this we may assume that like other bacteria, spirilla and fusiform bacilli may take on a heightened virulence or at least take on a property which permits them to gain a foothold more readily in healthy tissue (Davis and Pilot).

DIAGNOSIS

The bacteriological smear made from an acute case of Vincent's infection, showing spirilla and fusiform bacilli to the almost total exclusion of all other forms of bacteria, is so appreciated, that it does not need any comment. But I do believe that it is necessary to call attention to the possible fallacies of such an examination. The single stained smear report "positive for spirilla and fusiform bacilli" may lead to erroneous conclusions unless the type of pathology in the mouth is taken into consideration. Whenever there is a benign or malignant lesion of the mucous membrane, Vincent's organisms may be secondary invaders. It is not uncommon at all, to find both germs in the membranes of true diphtheria. Ulcers with spirilla and fusiform bacilli may be found in deficiency diseases, like scurvy and pellagra. An ulcer in the pharynx may be regarded as caused by Vincent's infection, from the typical bacteriological picture, until the hematological examination reveals as underlying factor a fatal blood disease, agranulocytosis or leukemia. Ulcers may be traumatic, syphilitic, tuberculous or cancerous, in spite of a laboratory report "positive for Vincent's infection." In such cases local treatment with sodium perborate or arsenical preparations will clear the oral cavity of Vincent's organisms, but will not heal the ulcer. If at the end of one week, an ulcerous condition in the mouth is not relieved, there should be a renewed search or a consultation to find out the exact cause and nature of the oral lesion.

PROPHYLAXIS

Nobody has ever found Vincent's disease or even spirilla and fusiform bacilli present in a mouth where all the teeth and both tonsils were completely removed. Likewise ulcerative balanitis is unknown in circumcised adults. This suggests the conclusion that if we would rid modern society of this pest, we must extract all the teeth and remove all the adenoids and tonsils. And Davis and Pilot point out that one reason for circumcision is the fact that after this procedure Vincent's infection on the preputium practically never occurs. I do not believe that this radical standpoint will find the approval of our patients and therefore we have to be less ambitious in our prophylactic aims. While it may be out of question, without radical measures, completely to disinfect the mouth or the tonsils, the number of bacteria harbored there may be greatly reduced. In dealing with organisms belonging to the opportunists, diminishing the number of bacteria generally is an important element in prevention. Thorough and frequent cleansing of the teeth, removal of tartar and pus pockets, and in general the establishment of a clean, healthy mouth would clearly be indicated in this connection. In the acute stage of Vincent's infection extensive instrumentation or even tooth extraction is rejected by everybody, but after the primary or medical treatment has restored the soft tissues to its normal condition, the irritating causes, tartar deposits on the teeth, defective crowns and bridges, abscessed and impacted teeth—conditions which all weaken the resistive powers of the mucous membrane and—in the same time—favor the multiplication of the opportunistic organisms, must be attacked energetically.

It is this corrective or secondary treatment that, in my mind, places the successful prevention of Vincent's infection almost exclusively in the hands of the dental profession.

ANALYSIS OF TWENTY-SIX HOSPITALIZED CASES

Under about 20,000 cases which were treated during the last five years in St. Francis Hospital, Wichita, Kansas, twenty-six patients had Vincent's infection (0.13 per cent). The low incidence can be explained by the fact that—as a rule—this disease does not require treatment in the hospital. Therefore one will encounter a much higher percentage in the office practice. By personal communication, I learned from Dr. H. E. Marshall, that he saw under 884 unselected nose and throat cases 17 Vincent's infections (2 per cent).

Age and Sex. Our youngest patient was two years old, while the age of our oldest was 62 years. According to the literature, Vincent's infection, especially its severest form, noma, is a disease of early childhood. In our series, however, the early adult age, from 20 to 40 years, ranges highest. We regard several factors as responsible for this distribution. The important role which dental and especially paradental diseases play as predisposing factors in the etiology of Vincent's infection, is generally recognized; pyorrhea affects certainly the early adults most frequently. Furthermore young men are thrown into closer unsanitary environment in military and civilian life and experience more hardships and exposure to infection than other age groups. This, together with the more extensive smoking habit, may account also for the higher incidence of Vincent's infection in males as compared with females. Of our patients there were 17 males against 9 females.

Season. Vincent's infection has an entirely different seasonal occurrence than have diphtheria and the common colds. While the latter are more frequent during cold or changing weather, most cases of Vincent's infection are observed in the summer months. The month of August had the highest incidence in our series, February the lowest. Also Jellinek who studied epidemics of Vincent's infection in enlisted men, emphasizes the rarity of the disease in the cold season. He explains this by a particular sensitivity of the spirilla to cold and he bases on it his treatment of the mouth ulcers with ethyl chlorid spray.

Site of ulcers. In the majority of our cases (21), the lesions were localized principally on the gums, a fact which indicates the great importance of paradental affections in the etiology of Vincent's infection. In two cases, typical ulcers were found in the cavity of extracted teeth, while in nine the mucous membrane of the whole mouth was involved. In only three patients, the ulcerous lesion was confined to the tonsils. Of Dr. Marshall's 15 cases of Vincent's angina, all but one showed also involvement of the gums. This would not confirm the opinion of some writers, that ulcerous gingivitis and Vincent's angina are entirely different disease processes.

TABLE I

Localisation of Vincent's infection:

Lip	1 case
Tongue	2 cases
Gums	10 cases
Cavity of extracted teeth	2 cases
Palate	1 case
Tonsil	3 cases
Whole mouth	9 cases
Tracheotomy wound	1 case
Lungs	2 cases
Finger	1 case

Two of our patients had a bronchopneumonia with many spirilla and fusiform bacilli in the fetid sputum, which was sent to the laboratory for examination for tubercle bacilli. Both cases recovered promptly after intravenous administration of salvarsan. In one female, multiple ulcers, teeming with Vincent's organisms, developed in a tracheotomy wound and one man came to the hospital with a gangrenous finger wound which followed a blow striking the teeth of a wrestling partner with pyorrhea.

Primary and secondary occurrence. Vincent's infection was the cause of admission to the hospital in 15 instances, while it was found as complication to other diseases in 11 cases. There were four acute and seven chronic conditions during the course of which ulcerous lesions of the mouth developed. In Table II these 11 different diseases are listed. In six patients, the infection was discovered a week or later after admission

to the hospital and the question arises, whether a contagion occurred from one case to another. A thorough investigation of these cases, however, did not substantiate this suspicion, since only in two years two patients developed Vincent's infection during their stay in the hospital and they were not only on different floors, but there was also an interval of several months between the infections. Our experience lead us to the belief, that Vincent's infection is not a highly contagious disease.

TABLE II

Eleven Vincent's infections, secondary to the following diseases:

Gangrenous appendicitis	Chronic rheumatoid arthritis
Bil. purulent salpingitis	Chronic nephritis
Acute gonorrhoic arthritis	Hypothyroidism
Acute enteritis	Duodenal ulcer
Acute lymphatic leukemia	Cancer of urethra
Fracture of fibula	

Complications. Vincent's infection is generally considered as purely local condition, the systemic effects are mostly explained due to the absorption of putrid material through the mucous membrane of the mouth and the gastrointestinal tract. In our series, half of the patients suffered a toxic albuminuria which disappeared after healing of the mouth ulcers. As serious complications we noted in two instances osteomyelitis of the jaw, following tooth extraction. In one of these cases the whole half of the mandible got necrotic and had to be resected. Another patient developed a large abscess on the floor of the mouth which contained Vincent's organisms together with staphylococci.

Mortality. The mortality of Vincent's infection is according to most writers low, almost none. Emerson reported 915 cases of trench-mouth in the American expeditionary forces in France with one death. Of our 26 patients two died. While one death must be attributed to the underlying systemic disease, lymphatic leukemia, the other fatal outcome followed the intravenous injections of salvarsan. We agree with Hatton, that such a death in the treatment of acute ulcerous gingivitis is without mitigating circumstances. Vincent's infection of the mouth requires only local treatment and there is a distinct risk to the life of the patient in the intravenous administration of arsenic preparations.

CONCLUSIONS

1. While Koch's postulate has never been fulfilled in Vincent's infection, the etiological role of Spirilla and fusiform bacilli seems well established from the constant histopathological and bacteriological findings in the ulcerous lesions.
2. Vincent's organisms are normally present in a fair percentage about the teeth, the tonsils, the preputial secretions and possibly the intestinal tract.
3. When the local or general resistance of the tissue is weakened, these organisms which belong to the group of opportunists may gain entrance into the tissue and cause ulcero-membranous lesions.
4. Paradental diseases (pyorrhea) play a very important role in the development of Vincent's infection.
5. At St. Francis Hospital, Wichita, Kansas, the incidence of Vincent's infection was low (0.13 per cent).
6. The disease prefers the early adult age and especially males.
7. Vincent's infection is much more common in summer.
8. The laboratory report of a mouth smear: "positive for Vincent's infection" may be misleading. Whenever there is a benign or malignant lesion of the mucosa, spirilla and fusiform bacilli may be secondary invaders.
9. Intravenous injections of salvarsan are not justified in the treatment of Vincent's infection, localized in the mouth or pharynx.

MODERN FUNCTIONS OF THE COUNTY MEDICAL SOCIETY*

William J. Burns, L.L.B.
DETROIT, MICHIGAN

Your program committee has been very kind in inviting me to Topeka to give you a few slants upon the work and problems of the county medical society and to speak upon some exceptional activities and pioneering steps made by certain cities, which progress

*Executive Secretary of the Wayne County Medical Society.
*Read at the monthly meeting of the Shawnee County Medical Society. at Topeka, March 7, 1932.

is bound to exert a growing influence upon every individual medical society in the country.

Every county should have its medical society and to insure success in all its undertakings, there should be but one and only one unit. In the larger cities special groups may be organized, such as a medical section, or a surgical section, but for the sake of complete harmony and permanent good to the local profession and to the public, each and every medical group should be an integral part of the present medical society. I understand this happy circumstance exists in Shawnee County so you deserve congratulations for an excellent ground work.

Among the modern functions which are being sponsored by progressive county medical societies in the United States may be listed: (1) Definite organization along economic and administrative lines, such as has proven successful in the business world; (2) a program of education and service to the profession and to the public, which includes daily or weekly radio talks, newspaper columns, speakers' bureaus, physicians' telephone exchanges, collection and credit bureaus and like features; and (3) a very satisfactory program of public relations, which includes cooperation with the judiciary, and close contacts with newspapers, radio stations, Board of Commerce, business leaders, civic officials, legislators and all office holders whose work directly or remotely touches matters of medical practice and the people's health.

DEFINITE ORGANIZATION

Realizing that the county medical society must be the center of medical activity in the community, officers of many such units in the United States are reorganizing their societies along definite business lines and placing the administration of the association's affairs in the hands of a full time manager. A medical society's importance to the community is too great to hazard it by a careless or indifferent attitude. As you all well know, outside interests have already attempted to lessen the influence of the county medical society. Now is the time to step in and by positive activity save the situation before it is too late. Better business administration means better programs, larger attendance, greater influence and enhanced prestige to the profession as a whole, with resulting benefits to the individual practitioners. Members of smaller county societies know the advantages of joint meetings with neighboring societies—for example, the enthusiasm and benefits of a tri-country meeting. The day must come when not only will every larger society have a definite program along economic lines, but the smaller counties will unite in groups of three, four, five or six societies, outline a cooperative plan of progress and employ a full-time individual to execute the business details. Good results must follow. This plan is to the interests of the individual practitioner of medicine. Good organization is more easily achieved in the smaller communities than in the large metropolitan centers. The former has a compact group, the members familiar to one another's problems; the latter has a far flung membership, widely separated by miles of city; the average doctor is generally unacquainted with his brother practitioners, much less his problems.

A BULLETIN AND CORRESPONDENCE

Wherever possible, county medical societies should publish a bulletin. It is one way to keep up the interest of the membership, and to tell the world what the local medical profession is doing for the community good. In addition, a bulletin in the hands of a live business manager can be a source of revenue, as many manufacturers are glad of an opportunity to use the medical man's publication with its selected clientele, to advertise their products. The mailing list of a medical "house organ" can include the names of physicians in neighboring cities and also prominent laymen and those holding governmental positions, and can be the means of increasing the prestige and influence of the medical men who publish it. Care of editing your bulletin must be exercised as it will fall into the possession of and be read far more carefully by laymen than by the average doctor. The Society's

full-time man should assume the routine work of accumulating material, make-up, editing and proof reading in order to save hours of time for the medical editor and his staff.

Another matter that deserves the close attention of a full-time secretary is the society correspondence. Every letter should be given immediate attention. Many letters received by a county medical society are of a controversial nature and because of their contact with important outside influences they require careful study and minute consideration to avoid embarrassments for the society. Someone should be responsible for the procuring of the desired information or performing the services requested in letters which should in every instance be promptly acknowledged and satisfactorily answered.

PROGRAM OF HEALTH EDUCATION

The movement of "popular medicine" had its origin some years ago, and, through the stimulation of the American Medical Association, has developed from small beginnings until it has become a very influential organization in some county medical societies of the United States.

In a certain midwestern city, it was my privilege to see a program of health education launched and developed. For years back several of the more foresighted members of this county medical society realized the value of a program of popular medical education. It remained simply to put it into being. Numerous meetings were held over the luncheon table to discuss ways and means. At one notable meeting back in 1924, the officers of the society decided finally that problems dealing with clinic abuse, contact practice, fraudulent advertising, quackery, misinformation of the public on matters of health, and a host of other things could be best met by broadcasting first hand the *doctor's* viewpoint on these medical matters, rather than the *layman's*. This was a departure from the old notion of keeping silence on such questions from a mistaken idea of "ethics." This position is hardly tenable. The distinction has well been made between "advertising," which is closed to the physicians as an individual, and "publicity," which is open to the profession as a whole. Not all the members, however, were sold on the soundness of the idea. You gentlemen probably will encounter the same condition in your own ranks; yet it is clear that your responsibility as guardians of the public health demands that you take more than a passive interest in such matters. In addition, your acceptance of this obligation will result in increasing your financial as well as scientific revenue.

The officers of this medical society decided definitely on the necessity of forming an education committee to look after these matters in point. Such a committee would bring about a better relation between the public and the profession, which would be of advantage to both.

DAILY NEWSPAPER COLUMN

The beginning of popular medical education in this city was made early in 1926 with weekly health articles in two of the leading papers. The committee's plans were visionary. It had no precedent to follow. Few realized its possibilities. The first year was spent mainly in building up experiences and gaining contacts. It can truthfully be said that it sold the idea of honest guidance and authentic information in medical matters to the newspapers and the public. This was a worth-while accomplishment. But the committee quickly realized that the force was being lost due to irregularity of appearance of its articles. Plans were set afoot to publish a daily medical article. This was a radical innovation in newspaper circles. True it is that daily newspaper medical articles had appeared previously in syndicated form. These, however, reflected only individual opinion in medicine. The "Said by Our Doctors" column, with its daily article, attempted to reflect the accepted opinion of the bulk of the medical profession. In this respect, it pioneered.

In February, 1927, the new column was inaugurated. During the next two years, a daily article was printed, followed by a "Question Box." Society members

submitted articles to the Publications Bureau, which revised and edited them to fit into the program. Names of physicians were not signed to the articles. Self-diagnosis and self-medication were discouraged. The mottos throughout were: "See your doctor first" or "See your doctor before he has to see you."

SPEAKERS' BUREAU

Realizing that the Speakers' Bureau was a necessary adjunct to the work of the Publications Bureau, this department was formed in 1927. For the first half year it worked sporadically. But the profession realized that the Speakers' Bureau was a powerful and valuable arm in bringing the medical man in direct contact with the public, so a concerted effort was made to boom this feature. The result was that during 1928 and 1929 the Speakers' Bureau sent out an average of ten physicians each month to address lay organizations, civic clubs, etc. Physicians should grasp the opportunity to talk to lay groups, as well as to appear before other county medical societies. The latter is often instrumental in bringing referred work. The county medical society can stimulate this activity by providing a special course for doctors in public speaking—through the help of the University's Extension Division.

HEALTH EDUCATION VIA THE RADIO

In the past three years, the public's interest in the radio has increased tremendously. It would seem that people rather "listen in" at home than go out to a lecture or a like presentation. The Wayne County Medical Society was among the first to sense this trend and has been presenting health talks over the air for several years. At present it utilizes a fifteen minute period over Radio Station WEXL three times a week and a like period over WWJ two or three times per month. It does not pay for this time feeling that it is aiding the radio stations in their charged duty of educating the public. The talks are popular in appeal, of the question-and-answer or interview type. Some of the titles have been "Why Blood Pressure?", "Vaccination and Its Hazards," "Out of the Shadows," "Having a Baby," "Why is Johnny Unable to Keep Up with His Grade in School?", "Significance of a General Medical Examination," "What Everyone Should Know About Appendicitis," "Why Grow Old?", "Physical Culture Fads," "Germs—Good and Bad," "Reducing Fads," "Are We All A Little Crazy?", "Some Facts About the Human Heart," "Why a Medical Society?". Judging by the letters that have been received, the people are listening to these broadcasts. There is no more powerful instrument at present for health education than the radio. All county medical societies should develop a liaison with their local station and begin an active campaign of health information over the air. The material can be procured from local physicians who have a flair for popular writing, or it may be borrowed from the American Medical Association or other county or state medical societies doing radio work. There is a wealth of material on hand. I personally feel that every state medical society should have a substantial interest in a radio station. I need not bore this audience with details showing that it would be a profitable investment in more important ways than in dollars and cents.

HEALTH EDUCATION BY COOPERATION

Apart from what the county medical society can do *alone* in health education, there is a vast field in which it can perform co-operative work, with splendid results occuring to the public and the profession. It can work hand in hand with the official public health agencies in various campaigns stressing preventive medicine. Detroit has been very successful in this type of endeavor. For example, through a cooperative arrangement between the Wayne County Medical Society and the Board of Health, Detroit doctors received $100,000 for toxin anti-toxin work during the past year. The City Council is glad to appropriate the money because Detroit remains a healthy city; the doctors are willing to do the work because it eliminates salaried competition and brings patients to their offices in follow-up work. The Society's Public Health Committee, which meets

regularly every second Wednesday, invites the Health Commission to sit in on its luncheon conferences. An harmonious understanding between the medical society and the official health agency is the result. In educational endeavors they work hand in hand, to the benefit of the public and the private practitioner of medicine. Educational work is the primary, if not the exclusive reason for the existence of a city or county department of health, and doctors should aid the department in this type of work. On the other hand, when a governmental agency includes in its program engagement in the *practice* of medicine, the profession should be just as enthusiastic in vigorously defending its rights and warning to the end against such an unjust invasion.

TUBERCULOSIS CAMPAIGN

Last week, the following letter went out from the Wayne County Medical Society to its 1600 members and to the other 400 physicians in Detroit:

"During the past few years the Wayne County Medical Society, through its Public Health Committee, has been engaged in a program to secure the more active participation of the practicing physician in preventive medicine. The diphtheria prevention campaign conducted by physicians in their own offices, has been highly successful in reducing the number of cases and deaths and has brought doctors many new patients.

"The Committee hopes to extend this program of participation into the field of tuberculosis control and with this in view has worked out a plan to secure the detection of early cases of tuberculosis. The need for this work is obvious. Tuberculosis ranks third as a cause of death in Wayne County and more children under five years of age die from tuberculosis than from any other communicable disease.

"The Wayne County Medical Society, the Wayne County Tuberculosis and Health Society, and the Department of Health will carry on an active educational program through the radio, billboards, newspaper articles, and speakers before lay groups.

"There will be issued to school children a "Notice to Parents" urging that the children be sent to the family physicians. If parents do not have a regular physician they will be furnished with the name of one or two cooperating physicians who reside in their general neighborhood. All tuberculosis testing will be done in the offices of physicians at hours specified by the doctors.

"If you are in a position to participate in this plan, please read the enclosed Outline of Procedure and fill out the attached form and return it at once to the headquarters of the Wayne County Medical Society, Woodward at Canfield Avenue."

This is Detroit's latest cooperative endeavor in health education.

Another scheduled for the near future is the Periodic Health Examination Campaign, which will be sponsored by the Public Health Committee and the Detroit Board of Commerce.

These campaigns train the people to accept and permanently adopt new medical procedures and thus they widen the usefulness of the physician. Again they counteract the popularity of clinics. Doctors themselves must stop shunting patients to clinics and insofar as possible care for these people in their own offices. If the popularity of clinics is ever to be lessened it can only be accomplished by making those in charge of clinics realize that the primary purpose of these agencies should be to show a decrease rather than an increase in attendance. The doctor must approach this Gordian Knot with a clean sword and be able to run through and slash to pieces the accusation that he has been a prolific contributor to the clinics. To keep clinics and like agencies under control, the county medical society should be well represented on the board governing such organizations. Doctors, *appointed at the instigation of the medical society,* should be on the city and county boards of health, welfare commissions, boards of education, in the city council and even the state legislature. Likewise, the wives of doctors should be represented in the personnel of every board, commission or committee having to do with

civic or social service affairs. Women aligned with such groups could help to nip in the bud nefarious plans such as the creation of unnecessary clinics, and agencies inimical to the doctor's well being and the good health of the public.

The school physician can be a great factor in making a success of health education work. If he remembers that he represents not only the government which employs him but his professional brothers as well, he also will be able to help cut down these imposing records of attendance in clinics.

A health magazine, published for distribution to the public, is an important item in a well rounded program of popular medical education. Much good can be accomplished by talking to lay people in their own language. You physicians are very fortunate in having such a publication as "Folks," sponsored by the Kansas Medical Society. You should do everything in your power to keep this worthy publication alive in fulfilling the purpose for which it has been inaugurated.

The public seems to be hungry for information dealing with its health. The medical society that fills this want by use of the radio, the newspaper and health magazine, the lecture platform, and by cooperative endeavors with health agencies achieves far-reaching results. This activity does more than all the preaching in the world to counteract the propaganda of the quack and the pseudo-medical man. It establishes the doctor in the hearts of the people. More important, it makes patients proud of their own doctor, and results in building up that confidence which is so necessary in the successful care of a patient.

A competent full time secretary in the employ of any county medical society or group of societies, would establish a Speakers' Bureau for radio and lecture work, institute a regularly published newspaper column and be instrumental in establishing and maintaining a smooth liaison between the medical profession and the public with far-reaching and beneficial results to the organization and its members.

PROGRAM OF SERVICE

A modern county medical society cannot do full justice to its members and to the public by a program of education alone. It must augment it with a program of service. A collection and credit bureau and a physicians' telephone exchange are two good items in a program of service. In competent hands, both may be profit-making activities. Here is a brief consideration of each plan.

CREDITS AND COLLECTIONS

For 16 years, the Wayne County Medical Society has successfully maintained a physicians' business bureau in Detroit. For obvious reasons, this bureau uses a different name than that of the society and has its own business office located in the Wayne County Medical Society Building; it is under the supervision of a committee of physicians from the Society.

It offers three distinct services to every individual member of the Society: first, credit ratings on every person who visits the doctor's office, in case the physician doubts the paying ability of his patient; second, a delinquent account letter service, whereby a series of letters is mailed by the Bureau to slow-pay patients to aid the doctor's collections; third, a collection service, which is a dependable help to the physician who wishes to have his older accounts adjusted or financed.

Annually, the Bureau sponsors a lecture course on "Economics." These talks, given by prominent laymen, specialists in their fields, are presented at the regular weekly meetings of the Society during one month in the year. Physicians, their office secretaries, bookkeepers, workers in hospital offices, and all others interested in the business side of a doctor's practice are invited. This past year the subjects of the lectures were: "Systematizing the Office Records" given by the Dean of a School of Commerce; "Credit Information," by the Service Director of a large industrial bank; "Suggested Aids in the Collection of Accounts by Physicians," the Collection Manager of a large department store; and "Two Prescriptions:

(1) Better Cooperation Betwixt You and Us; (2) Investment Buying by Doctors," by the manager of the Better Business Bureau of Detroit.

Along similar lines, another activity of a county medical society can be the publication of a "Confidential List for Members Only." This private list, added to monthly, should contain the names of people with whom the society members have experienced unsatisfactory financial relations. A copy of this list should be mailed to each member so that he may study it whenever a new and questionable patient appears in his office for service. A masterlist should be kept in the office of the medical society.

PHYSICIAN'S TELEPHONE EXCHANGE

A county medical society activity which is spreading across the county is the physician's telephone exchange. In a certain midwestern city, such a bureau has been running twenty-four hours per day since August, 1925. It was started with a campaign for members. Approximately 100 subscribers joined before operations were begun. This number increased gradually to 160 (close to 50 per cent of the active membership) which is believed to be the saturation point. The subscribers are assessed $3.50 per month, payable quarterly, for this service. It is owned and controlled by the society, with the board of trustees acting as a supervising committee, but it is operated by a separate entity. The bureau is "not for profit." The Doctors' Service Bureau has its own employees and its own system of bookkeeping; the bureau has nothing to do with the general funds of the county medical society. The main object of a physician's service bureau is to be a connecting link between the doctor and his patients. Most of this bureau's work consists in patients calling for their family physician or making appointments with their doctor, which is desirable business. It does get its share of emergency calls but these are necessary superfluities. Often there is no remuneration to the doctor for such work. But such a bureau, being a quasi-public agency, must accept the good with the bad.

The operation of a physician's service bureau brings with it loads of grief. Just try to please everybody! But it is worth all the trouble. A bureau helps to pep up the society and makes it the center of medical activity in the city. It helps to unify the doctors, which seems to be a problem in every city, town and hamlet. The advantages seem to outweigh, by far, the troubles. Many people will come to the society headquarters for medical and miscellaneous information, including opinions on quacks, and there is no doubt but that the bureau will have been largely the cause of this decided advantage.

MEDICAL DEFENSE

Another valuable item in a program of service is medical defense against malpractice suits. In Michigan as in Kansas two dollars of the dues sent to the state society go to a Medical Defense Fund. It is interesting to note that in the city of Detroit, not one malpractice suit has been lost by a physician during the past three years. It pays to be organized.

In these days of depression, you all have seen the first signs of the loss of people's individualism by a willingness to accept medical charity. Immediately there is developed a peculiarly progressive psychological trait. Persons who first barely accept medical aid, subsequently ask for it and finally demand it. Sooner or later, they go after all commodities in the same way. One can see, therefore, that the doctor is in the front line trenches in the defense against this social holocoust. The man in business with telescopic and tubular vision watches the conflict. With this type of sight he feels that the war is a long way off and that there are no flanking movements. He feels quite snug as the battle progresses. He is perfectly confident this is the doctor's problem alone, and that he will never be anything but an observer. Very shortly, however, and much to his surprise and chagrin, the dole system is at his door.

You can see, therefore, that as physicians are in the front line trenches, they require a headquarters with an efficient staff manning it. The service which this

headquarters performs for the individual medical man is soon well known and felt by him. It is one of the reasons why he is so sold on the work of modern medical organizations—it achieves results.

CLUB FACILITIES

The Wayne County Medical Society has offered club facilities to its members for years. It began in 1910 when the Society purchased its first home. It continued after the headquarters building had been sold in 1926 and the Society moved into a skyscraper. The first of this year the organization removed into the David Whitney homestead, a house built in 1893 at a cost of $650,000. It has 52 rooms and has long been the show place of Detroit; is admirably suited for the requirements of the Wayne County Medical Society and contains ample space for lounges, dining room, committee rooms (all committee meetings are held at the headquarters over the luncheon table), executive offices, Business Bureau, etc. The men especially enjoy the dining room feature of the society and gather every noon for good food, conversation, or cards. Club facilities, especially a cafe, certainly help good fellowship and esprit de corps.

A program of service, in conjunction with some social features, is necessary for a county medical society if it hopes to achieve that place in the sun which brings tangible benefits to its individual members.

WELFARE PROGRAM

When physicians learn of the illness of a medical confrere, they think of it momentarily and then forget it in the stress of making a call or getting to the office on time. Such a matter deserves more attention: for example, the mailing of a sick card, a daily telephone call for reports, a visit from a member of the welfare committee, and the insertion of the sick man's name in the bulletin would not be amiss. When one person is responsible for the fulfillment of a courtesy program, it is carried out with infinite pains. It makes lasting friends for the society.

Last week a certain doctor (like thousands of other poor mortals) was making out his income tax report. He called his medical society office. Could he, he asked, take as a deduction the legal expense incurred in fighting a malpractice suit which had been inflicted upon him during the past year. He was made happy in the knowledge that this was an allowable deduction and he took down the exact citation in order that there would be no question concerning his report when it reached the income tax office. This was another small item of service rendered by one charged with certain responsibilities of courtesy resulting in greater good-will for the county medical society.

VALUABLE CONTACTS

To protect its own and its members' interests, and to grow in influence and prestige, a county medical society must become active in civic affairs, and contact newspapers, people, radio stations, business leaders, welfare workers, legislators, judges and other officeholders. No medical practitioner has the time to give to this important work. Yet, if it is done the struggle of the individual medical man can be lessened immeasurably. Your Chamber of Commerce can be persuaded to aid in and institute many activities for the good of the medical profession similar to the Detroit Chamber's work. The relation of the county medical society to other agencies engaged in public health work is just developing. The Public Health Committee of your Chamber of Commerce can sell preventive medicine and periodic health examinations to the public in a far more effective and impersonal manner than can the doctors in a community. Moreover, it is better for laymen to stress these refinements to the public; the physician might be accused of bias or selfishness. The Chamber's publicity committee can effectively popularize the medical man. Again, its legislative committee can quietly represent the medical profession before the state legislature, federal congress and otherwise guard the doctors' interests in public health measures.

Every county medical society should have accurate information regarding the resources, objectives and personnel of every agency operating in the county

whose activities include the care of the sick or the prevention of disease. The acquaintance of the leaders and organizers of these various agencies should be made and assistance should be offered in developing that part of the program which has to do with the practice of medicine. The county medical society should know all facts in order to protect the public against propaganda or activities pretending to promote or protect public health and which are not in fact beneficial. The society should become so active in its public relations that the social uplifter knows and realizes that it is on the job. Thus he or she will think twice before attempting to foist on an unsuspecting public some new-fangled scheme that exploits the medical profession. To achieve these results, and make them permanent, a medical society must have someone responsible for the work at all times—someone to see that they are carried through.

By maintaining its integrity, being ever alert, and exercising wisdom in its decisions, every county medical society can determine the character of medical practice which should prevail in that county.

NEWSPAPERS

The county medical society should cooperate to the fullest extent with the newspapers, supplying them with authentic articles on medical topics as well as informing them on the local medical quacks and irregulars. It is a good thing to build up a liaison with the powerful press.

The executive office interviews personally and over the 'phone approximately 60 people per day. Some are laymen with complaints against doctors. They are potential malpractice-suers. But after a conference with the officers or executive staff of the Wayne County Medical Society, many see the wisdom of going back to their doctor, paying bills (and few people who *pay* their doctors ever go to court) and forgetting their belligerent ambitions. The physician in the case is always advised of the visit immediately, so that he may contact the patient before a shyster lawyer does.

CONCLUSION

You have heard a few of the activities of a modern county medical society which employs an executive secretary to carry them out. Without a man responsible for these duties, the bulk of this work must be borne by some member of your society. A physician has not the time to give from his practice to a thorough handling of it. Some of the things of greatest concern to you might be glossed over and neglected. In any case, admitting the doctor's excellent qualifications, full capability, and usually he is very capable (or he would not have been chosen for office by his confreres), it is not just to saddle detail work of this kind on his shoulders. More than that, it will result in a failure to progress along the modern lines of education, service and public relations which you all desire. It becomes absolutely necessary to entrust such matters to one who can give them his whole time and undivided attention. Let the policy of the organization be dictated by the officers; the details of its execution can and should be handled by a full-time manager. Such a person is styled an executive secretary. He is your advertising or selling agent, your relations man, contacting important people for you and in your interest; moreover, he is your buffer against the public, interviewing each year the hundreds of collectors, insurance men, salesmen, service men and others who likewise take days of your valuable time. He is always endeavoring to save you time and money, trying to broaden the influence of organized medicine, and through unified action and service to relieve the burden of the individual doctor. It has come to my notice that those county medical societies throughout the country that have decided upon a modern program and have employed an executive secretary seem to be progressing by leaps and bounds. May I, therefore, venture the prediction that in the very near future, every society of prominence will sponsor such a program, have an executive secretary and the investment will pay rich returns, economically and professionally.

LETTERS FROM A KANSAS DOCTOR TO HIS SON

John A. Dillon, M.D.

LARNED, KANSAS

My dear Boy:

Received your letter with snap shots of yourself and brother and very glad to get them although I am going to confess your mother spent considerable more time gazing at them than I did. I note that you boys both seem to be in excellent flesh. I was not surprised at this as you had requested your allowance be increased and I could account for it in no other way than that you wished more nutritious food in order to build up your mental energy. No doubt your grades this semester will take a material upturn and justify the expenditure. The holding of the skull in your hand with easy familiarity is an old custom of medical students and never fails in its object to give the feminine observer a delicious shock. Personally, so many of my patients during the past forty years have ended up as skeletons I cannot get any great thrill out of the exhibition of skulls.

However, I will say that your thorough understanding of the minute anatomy of this skull will give me more pleasure than the photo. Your demonstrators I am sure will agree with me in this; all of which reminds me of the difficulty we used to have in securing material for dissection. There was no provision made by the state to furnish this and the problem was one difficult to handle. Now you as a student need give no thought to this and with your well equipped laboratories and earnest teachers it should be a pleasure to work out the tasks allotted to you. And here is another axiom—the fellow who hurries through his dissection in a sloppy careless manner will become a sloppy doctor and will probably finally be found located in a town of 250 people using bread and milk poultices and playing a good game of checkers.

I note by the papers that there has been some stirring up in athletic circles down your way and some criticism made in regard to salaries paid. Naturally in these times of depression people are apt to be critical and possibly unreasonable. Some have even gone so far as to say that good coaches should have no larger salary than the governor of the state. This of course is silly propaganda and only meant to detract from the glory of our athletes who hope to become great wrestlers in time, have cauliflower ears, and thus take full advantage of their college education. We understand that the alumni are taking some part in this agitation. By the way, has anyone ever seen the alumni rise up in loyal enthusiasm and put on a drive for a new laboratory or raise funds for an indigent or senile professor? Their energies and finances are apt to be directed toward anything but higher education.

Roughly speaking I would say the value of an alumnus' support decreases inversely as his waist line increases and at the age of forty-five his zealousness is apt to be modified by the size of his family or the amount of alimony he is paying. His college visits become infrequent. A home-coming football game will tempt him back to the old Alma Mater at times and under stress of loyalty and other things he will essay the tenor role in "Sweet Adeline" at the hotel room after the game. At these times he will become reminiscent and go into details concerning the team of steenty seven on which he played sub.

I would not have you think that I am disparaging athletics although I sometimes wonder if the enormous expense incident to the training of a football team and a basketball team is justified. The faculties of our colleges used to feel the same way and make weak gestures of disapproval but they have long since given up the fight and have conceded the spotlight to Bilge Hogan, the coach, and Jumping Jim, the gorilla man, who carries the ball. It is claimed that the university that does not stress athletics will not get the student attendance. It is also claimed that our state schools are overcrowded and are a great tax burden. Maybe the solution would be to try as an experiment the cutting out of some sports. As a timid trial the horse shoe pitching activity might be eliminated. This would do away with the dean and

coaches in this department and save the state these salaries. Then, if this does not demoralize the college, a few years later croquet could be similarly handled. This is only a suggestion and might not work out.

To sum it all up the student with brains who applies himself diligently should at least receive as much notice and praise as the human ox who ploughs around a muddy field cheered on by frenzied maniacs led by monkey contortionists.

Incidentally, I might confess I am very partisan myself on such occasions and when our goal is threatened, can make as much noise as a hog-calling Arkansawyer. I often embarrass your mother at such times.

We are looking with pleasure to your Easter visit home.

Love,

DAD.

WYANDOTTE COUNTY INVITES YOU

To the Members of the Kansas Medical Society and Kansas Medical Auxiliary:

The Wyandotte County Medical Society extends a most hearty and cordial invitation to you to attend the convention to be held in Kansas City, Kansas, May 3, 4 and 5, 1932. The convention will be housed in the beautiful Soldiers' and Sailors' Memorial Building. We believe the facilities will be the most convenient ever offered to the state society.

A number of committees in the society have already been appointed and are now working for the success of the convention.

Mrs. C. B. Van Horn has appointed Mrs. L. B. Gloyne, 1801 State, Kansas City, Kansas, as chairman of the committee to look after the entertainment of the doctor's wives. We feel that the wives are going to be entertained exceptionally well this year and urge each doctor to bring his wife. Besides the usual teas and dinners arranged for the Auxiliary, the ladies are being invited to the banquet, which will be filled with first class entertainment and will be followed by a dance.

The Golf Committee is making arrangements to hold the tournament at the Victory Hills Golf Course, which is located on 40 Highway four miles west of Kansas City, Kansas. A large number of excellent prizes are going to be offered. Pleasing dinner and entertainment is to follow.

A new feature is being started with this convention. It consists of an interesting scientific exhibit to be held in connection with the commercial exhibits.

The various committees are particularly anxious to satisfy the wants and desires of every one attending the convention.

Suggestions and requests will be gladly received by any of the following chairmen, all of Kansas City, Kansas:

Commercial and Scientific Exhibits—Dr. L. G. Allen, 704 Commercial National Bank Building.

Banquet Entertainment Committee—Dr. C. Omer West, 432 Brotherhood Building.

Banquet and other dinner reservations—Dr. L. L. Bresette, 314 Brotherhood Building.

Hall Committee—Dr. L. V. Hill, 705 Huron Building.

Entertainment Distinguished Guests—Dr. C. C. Nesselrode, 704 Commercial National Bank Building.

Public Meeting Committee—Dr. L. B. Gloyne, 416 Brotherhood Building.

Golf Committee—Dr. C. J. Mullen, 416 Brotherhood Building.

Service Clubs Speakers Committee—Dr. O. W. Davidson, 704 Commercial National Bank Building.

Hotel Reservation Committee—Dr. Merle Parrish, 32nd and State Avenue.

L. B. GLOYNE, M.D., Pres.

Little Lottie, aged four, who was spending a week with her aunt in the country, had developed a great fondness for milk. One day, having drunk as much as her aunt thought good for her, she was informed that she could not have any more.

"Pshaw!" exclaimed the indignant little miss, "I don't see why you want to be so stingy with your old milk. There's two whole cowfuls out in the barn."—Brooklyn Eagle.

TUBERCULOSIS ABSTRACTS

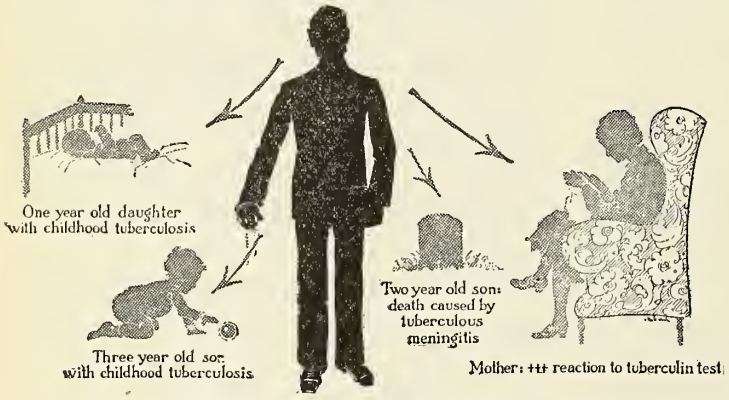
Furnished through the courtesy of
The Kansas Tuberculosis and Health Association

Where is the Other Case?

H. E. Kleinschmidt, M.D.
National Tuberculosis Association

The family doctor holds the key to the solution of the tuberculosis problem.

Tuberculosis tends to "run in families" not, as was formerly believed, because it is inherited, but because it is communicable, especially in the family circle. The disease is transmitted primarily through intimate and prolonged exposure to an open case. Family associations more commonly than any other set of environmental factors provide the opportunity for such exposure. Whenever a case of tuberculosis is discovered, one may well suspect that there is "another case" in the family.



How tuberculosis may involve an entire household is shown in the illustration prepared by Dr. J. A. Myers, which is typical of actual experience. Neither the wife nor the two living children of the particular family portrayed suffered symptoms which would ordinarily prompt an intelligent person to seek medical aid.

TRACING THE SOURCE

Every case of tuberculosis should be traced back to its source; otherwise, that source may continue to spread infection to others. Sometimes it is found that a grandparent who has for years worried along with a chronic cough is the real source of infection. Not infrequently, house servants are found to be tuberculous. Such cases which are not obviously tuberculous, yet expectorate tubercle bacilli, are the real dangers to many households, especially if there are children in the home.

Even the most careful questioning of the patient will not always lead to the discovery of unsuspected sources of infection; persistent investigation is necessary. Consciously or unconsciously, many persons tend to escape what they regard as the stigma of tuberculosis by concealing important data. Others are wholly unaware of the real source. Every clue should be followed with detective-like persistence until all contacts have been located.

When a diagnosis of tuberculosis is made, every exposed person in the household should be studied for evidence of infection or disease. The children under fifteen years who react to the tuberculin test and all persons above that age should be x-rayed. In no other way can the early forms of the disease be detected.

Early tuberculous lesions of the childhood type are about three times more frequent in children of contact families than in children of non-contact families. These early lesions cannot, usually, be discovered by percussion or auscultation. Nor do they give rise to symptoms commonly associated with tuberculosis, such as loss of weight, expectoration, or cough. The probable reason for this is that such early or latent lesions have not yet caused physiological disturbances sufficient to be readily apparent. Nevertheless, it can be demonstrated by x-ray that some damage already has been done. The apparently harmless lesions are like smoldering embers ready to be fanned into the flame of disease by any resistance-lowering influence. No matter how well nourished and healthy a child may appear to be, if he has lived in contact with a tuberculous person he should be

examined with the tuberculin test and the x-ray.

Since the great danger lies in continued exposure to massive doses of tubercle bacilli, children so exposed are in peculiar jeopardy; they are in danger of developing phthisis in later years unless something is done to break the contact and to build up their resistance.

ADVANTAGES OF THE SANATORIUM

Since tuberculosis is a disease of long duration, quarantine is not practicable, but isolation in a tuberculosis sanatorium is a great help. The sanatorium is not, as some may think, only for the eleemosynary relief of a few unfortunates, it is also and more especially for the protection of the well public. Many patients recover in the sanatorium. Some, while not "cured," are rendered bacillus-free, and thus noninfectious. And all receive, while in the sanatorium, training calculated to teach them how to protect others as well as themselves. Patients who cannot or will not be sent to a sanatorium must be supervised at home. This is best done by the public health nurse under medical direction. Her main function is not to render bedside care but to instruct the patient and the other members of the family how to prevent the spread of tubercle bacilli.

RESPONSIBILITY OF THE HEALTH DEPARTMENT

It is the duty of the health officer to protect the community against tuberculosis. There is no quick, easy, or direct way of doing this. Only by controlling the "carriers" or spreaders of the disease in their contacts with others can we hope to safeguard the community.

But control of the carriers or spreaders is impossible unless they are known. Therefore, the health officer must rely chiefly on the medical practitioner in private, clinic, and hospital practice. The doctor is expected to report every case of tuberculosis as he does other cases of communicable disease. The health officer is required by law to demand reports and to act upon them.

EDITORS NOTE: The foregoing is an extract from one of the Early Diagnosis phamplets issued by the National Tuberculosis Association. Kansas physicians desiring a complete free file of the Early Diagnosis pamphlets of the N.T.A. will be promptly supplied upon request to the Kansas Tuberculosis and Health Association, 824 Kansas Avenue, Topeka.

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The Dietetic Control of Hypertension —In a very excellent paper Rowland shows an unmistakable association between obesity and hypertension in the fact that approximately 66 per cent of all people over forty years of age and ten pounds or more overweight show hypertension. He urges a balanced, reducing diet intelligently supervised which he regards as the largest single factor in the control of certain types of hypertension and associated symptoms. It is more efficacious and more practicable than is generally appreciated. In the series of 100 private cases personally observed over a long period of time he noted a reduction in weight of 20 pounds, a reduction in systolic pressure of 40 mm. of mercury and a reduction in diastolic pressure of 17 mm. of mercury. He regards weight control after middle life as presenting one of the largest opportunities for personal prophylaxis that may be carried out in connection with a period health examination.

Rowland, V. D., The Dietetic Control of Some Forms of Hypertension and the Associated Gastro-intestinal and Nervous Symptoms. Annals of Internal Medicine. 5:971-981. February, 1932.—W. C. M.

Growth Hormone — Although growth hormone was discovered in 1922 as a product of the pituitary body it has only been very recently that it has been clarified sufficiently and separated from pituitary sex hormone to be of use. Engelbach reports the administration of this hormone intramuscularly in a patient both having hypopituitarism in infancy and childhood. During nine months' treatment the child grew 2.7 inches in height, gained 7.5 pounds in weight, increased the head circumference 0.6 inches, the chest 1.7 inches and the abdomen 1.3 inches. The reaction to treatment during this age was considered very favorable.

Engelbach, W., The Growth Hormone: Report of a Case of Juvenile Hypopituitarism Treated with Evans' Growth Hormone. Endocrinology 16:1-19. January-February, 1932.—W. C. M.

THE JOURNAL
of the
Kansas Medical Society

EARLE G. BROWN, M.D. - - - - Editor

ASSOCIATE EDITORS—L. B. SPAKE, E. C. DUNCAN, O. P. DAVIS, J. T. AXTELL, J. F. GSELL, C. C. STILLMAN, ALFRED O'DONNELL, H. G. HARDESTY, I. B. PARKER, C. H. EWING, W. F. FEE.

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EDITORIAL

THE ANNUAL MEETING

The Seventy-Fourth annual meeting of the Kansas Medical Society will be held in Kansas City, Tuesday, Wednesday and Thursday, May 3, 4 and 5. All meetings are scheduled for the Soldiers and Sailors Memorial Building at Seventh Street and Barnett Avenue.

An unusually interesting program has been arranged by the secretary. In addition to the scientific discussions, a number of papers will be presented on Medical Economics, a subject of unusual interest to all physicians at the present time. An interesting program has also been arranged for the Auxiliary.

The second day of the session, Wednesday, May 4, has been designated as guest day and on this program will appear: W. W. Bauer, Clifford G. Grulee, Harvey J. Howard, Paul A. O'Leary, Ralph A. Kinsella and H. H. Shoulders. All of these speakers have national reputations and their discussions will be of interest to every member of the society.

Meetings of the House of Delegates are scheduled for Tuesday night and Thursday morning. A banquet and entertainment for the members, their wives and guests has been arranged for Wednesday evening. Plans have been made for a public meeting on Thursday night, May 5, Dr. Bauer being the guest speaker.

Train service to Kansas City is very convenient from all parts of the state. Those who travel by automobile should have little difficulty in attending the meeting even though unfavorable weather conditions should prevail. Plenty of parking space is available near the meeting place.

Every member should make an unusual effort to attend this meeting. The completed program appears in this issue of the JOURNAL.

THE HOSPITALIZATION OF VETERANS

According to the report of the Veterans' Administration for the fiscal year ended June 30, 1931, as published in the United States Daily under date of December 9, 1931, more veterans are in government hospitals now than at any time since the World War. Since 1924, when hospitalization was first authorized for veterans of all wars without regard to origin of their disabilities, the patient load for the non-service class has increased until it now forms 54.27 per cent of the total, an increase of approximately 8 per cent since 1930. Of the admissions for the past fiscal year, 82,850, or 76 per cent were for the treatment of non-service connected disabilities as compared with 13,243, or 17 per cent in 1925, the year following the passage of the amendatory legislation. Report was further made that 74 per cent of those under treatment were in facilities under the control and jurisdiction of the Veterans' Administration; 20 per cent were in other Government hospitals and but

6 per cent were in state and civil institutions, 60 per cent of the latter being victims of neuropsychiatric disease.

As of March 31, 1931, there were fifty-three veterans' hospitals in operation having a standard bed capacity of 25,930. With the new policy toward hospitalization of veterans, additional beds will be required. The medical council of the veterans' bureau has estimated the maximum number of beds needed will be 129,859, on the assumption that veterans of all wars are given a mandatory right to hospitalization. The development of such a plan would involve the construction of approximately 103,000 beds in addition to the 25,920 already built. The average cost of constructing veterans' hospitals is approximately $3,500 per bed.

Numerous suggestions have been made toward the reduction of the expenses in connection with the hospitalization of ex-service men. One of the plans advanced is that of Dr. H. H. Shoulders, of Nashville, Tennessee, which plan was approved at the annual meeting of the American Medical Association in Philadelphia, last year. This plan is discussed in full in the American Medical Association Bulletin for October, 1931. Briefly, the Shoulders plan is: (1) a weekly cash benefit payable to the veteran during any period of total disability, and (2) the payment of a liberal hospital benefit sufficient to cover the hospital expenses during any period of hospitalization. The hospital benefit is in addition to the cash benefit.

Through payment of the hospital benefit, it would be possible for the veteran to be hospitalized in or near his own community. Sufficient beds are available, as a recent survey by the American Medical Association shows there were 120,786 vacant beds in general civilian hospitals in 1930, with an additional daily average of 58,615 vacant beds in special hospitals. The directory of Hospital Service issued by the American Medical Association shows a total of more than 8,000 hospital beds in Kansas in 1931, with less than half of them occupied.

Numerous conferences have been held by interested groups to discuss the question of the hospitalization of veterans. One such conference was held at the offices of the American Medical Association in Chicago on December 30, 1931 and attended by representatives of the American Legion; the Veterans' Administration; the American Hospital Association and the American Medical Association.

According to reports, a tentative agreement was suggested: (1) that the hospital building program should stop, except for the erection of hospitals for the care of patients suffering from nervous and mental diseases, and all building plans should be modified to meet the future needs of the civilian population by location and distribution; (2) that a modification of veterans' legislation should be asked, allowing that veterans be taken care of in the civilian hospitals at home and that all acute surgical and medical conditions should be so cared for.

Definite results were secured through the meeting of these representative groups: (1) a far better understanding of each other's point of view; (2) a better understanding of the Veterans' Administration; (3) an opportunity on the part of the American Medical Association to perform a real service in helping to simplify the disability rating schedule of the Veteran's Administration, and (4) a tentative platform on which all can stand—agreement on revising the law so that veterans may be taken care of by home doctors and hospitals, and a

termination of hospital construction except when necessary for the care of patients suffering from nervous and mental diseases and modification as far as possible to fit in with the civilian hospital needs of the future.

It is believed that additional conferences will result in the development of workable plans for the hospitalization of veterans and the utilization of civilian hospitals.

THE 1932 CLINIC TOUR

Those of our readers who have access to the British Medical Journal will be increasingly interested in the plans that are being made for the Centennial Anniversary Meeting of that body in July. Many distinguished names from all over the world, and especially from the British Empire, appear on the program. The American Medical Association has asked Dr. George H. Simmons, for many years its Executive Secretary, to act as its official representative at the London meeting. There will be a large display of both scientific and commercial exhibits. The Canadian Medical Association is holding its annual session this year in London as a part of the British Centennial meeting.

All of which lends added interest to the Co-operative Clinic Tours already announced through this Journal. Since these tours are scheduled for the fastest and most popular ships in the world, the "Bremen" and "Europa" of the North German Lloyd, there is every good reason for making reservations as far in advance as possible. We hope that Kansas will be represented at the meeting.

EDITORIAL NOTES

The Thirty-third annual meeting of the American Proctologic Society will be held in Memphis, Tennessee, May 5 and 6, 1932.

Of the 256 cases of typhoid fever reported in the state in 1931, 45 persons contracted their infection while traveling in some other state.

Of the 1156 cases of diphtheria reported in 1931, multiple cases occurred in 169 families. Two cases were reported in each of 112 families; three cases in each of 37 families; four cases in each of 13 families; five cases in each of five families, while six cases occurred in one family. Of the 68 deaths, 23 or 33.6 per cent occurred in children under five years of age. Laryngeal diptheria was given as the cause of 33 deaths, or 48.5 per cent of the total.

According to a report of the Committee on the Costs of Medical Care, the people of the United States spend $715,000,000 annually for drugs and medicines, which constitute about 20 per cent of the national bill for sickness. Of this amount $190,000,000 (26.6 per cent) is spent for medicines prescribed by physicians; $165,000,000 (23.1 per cent) for non-secret home remedies and $360,000,000 (50.3 per cent) for "patent medicines" of secret composition.

The slogan for the fifth annual campaign for the *Early Diagnosis of Tuberculosis* is "Tuberculosis causes Tuberculosis—Every Case Comes from Another." The campaign is under the direction of the National Tuberculosis Association and in Kansas is sponsored by the Kansas Tuberculosis and Health Association. It is a co-operative project and every Kansas physician will render an invaluable service by making a careful examination of every patient who consults him. In order to make the program more effective, physicians should make examinations of all persons who are contacts.

According to a report of the Journal of the American Medical Association a comparison of the price of drugs sold respectively under protected and non-protected names shows the cost of the former is far in excess of the price for which the latter are sold. A comparison of the wholesale price of proprietaries compared with the cost of the drugs sold under their non-proprietary name shows that the total cost of one ounce each of these under a protected name is $25.30 while the cost of an ounce each under an unprotected name is but $6.40. The cost of the proprietary name to the consumer is $18.90.

THE PRESIDENT'S MESSAGE

To Members of the Kansas Medical Society:

Membership in the state society at the present time is slightly less than that for the corresponding period of 1931. However, it is anticipated by the time of the annual meeting the society will have its normal quota.

It is surprising to learn that approximately twenty per cent of our profession remain outside the society. Four out of five, therefore, labor for the accomplishment of benefits derived from organized thought for themselves and the one extra man thrown in.

Frequently, we are accused of organizing for the one ultimate purpose of raising fees. Anyone who attends our society regularly, recognizes the absurdity of this charge, as such is never known to have been discussed in the state society. Occasionally, I hear of the question being discussed in county societies, but its very nature ever defeats its own purpose in that field.

Some few months ago, a member who had permitted his dues to lapse appealed to me for aid through the state society on a damage case in which he had become involved. I informed him that in my opinion nothing could be done because then the profession as a whole could demand the same service. He was referred to the Defense Board who naturally concurred. This was a tremendous blow to him, for in an attempt to save a few dollars he had taken the fortification of the entire state society from his back. If suit comes your way, the small sum you pay for state and county dues becomes a wonderfully cheap protection.

Do you realize that with one exception, Kansas has the lowest dues of all state societies. Sick and accident insurance cannot be purchased nearly as cheap. Dues in an Auction Club will cost more. Cigars and cigarettes are far more expensive.

The foregoing represents the selfish and protective angle.

Medicine made its advent into society, we are told, as a specie of mysticism and chicanery. It was not heralded as an organized director of morals. Yet, to what body could one appeal for a more sublime standard of ideals?

It was for that Greek father, Hippocrates, to reason out a series of Ethics that have remained to the present day. No one seems to be able to determine to whom may be ascribed the so-called Golden Rule. It was around this greatest of all moral equasions that Medical Ethics were woven. Read the Proverbs, the Sermon on the Mount, the musings of Socrates, or philosophies of Confucius. None will be found to be so terse or more equitable than the principles laid down by Hippocrates and have remained so completely acceptable to the profession since that time. So it becomes a moral uplift.

In traveling about my district and in the state, I find a far too high proportion of luke warm members. They begin telling one immediately about the faults of the fellow down the hall or across the street. These men are usually popular in the society or churches in the town and attend their clubs and card parties. However, to them the medical meetings become a droll thing. They are always too busy to attend, or if by chance they are present, always receive a call to which they never fail to respond.

It is quite true we may not all find papers and programs to our liking. I find that the good to be derived from the better ones, so far neutralizes the other and adds to one's knowledge that he cannot afford to miss them. One of my best friends and a rare intellectual, remains away from the state society because he does not like the discussions which follow. True, they may not all be interesting, but some bring out more real benefit than the original address.

To the leaders in the county units, I look for assistance. It is you who must explain to the indifferent, the advantages of membership in the Kansas Medical Society. It is you who must secure their memberships.

As the pioneers of the middle of the last century hurdled themselves within the stockade and with backs to the wall, fought the fight and won, so we must leave none without. We need them and they need us.

Respectfully submitted,

P. S. Mitchell

Iola, Kansas, March 25, 1932.

President, Kansas Medical Society.

THE LABORATORY

Edited by

J. L. LATTIMORE, M.D., Topeka

Many articles are written about glycosuria, but frequently these articles are so lengthy and so technical, the physician does not attempt to wade through them. Bear in mind the normal blood sugar varies from 80 to 120 milligrams per 100 cc of blood. Between this point and the threshold point, no sugar appears in the urine. Usually the threshold point is about 185 milligrams. By this term, we mean the height the blood sugar reaches before it begins to filter out into the urine. Beyond the threshold point, the urine examination amounts to a qualitative test, the mere determination of the presence of sugar, but with no index as to the amount of sugar in the blood. Again, we see a certain number of diabetes insipidus cases where the urine contains definite amounts of sugar, yet the blood sugar is within normal limits. I cannot stress too strongly the necessity for blood sugar determinations before making a final diagnosis of either diabetes mellitus or insipidus.

Sugar tolerance is merely a series of blood sugar determinations, to determine if the patient can tolerate or utilize the normal or average amounts of sugar. A normal individual should burn 100 grams of dextrose within two and one-half hours. The method of the test is to determine the blood sugar in the morning and immediately administer 100 grams of dextrose. At the end of two and one-half hours again determine the blood sugar. A normal individual should show as low blood sugar at the end as at the first test.

A safe rule to follow in diabetic coma is about as follows: First, be sure your patient is a diabetic; usually this is known to the attending physician. Do not waste time waiting for the laboratory to report on the blood sugar. Start your patient on 30 to 40 units of insulin. At the end of one hour examine a specimen of urine; catheterized if necessary. If the sugar reaction is positive, repeat the insulin. Continue this procedure each hour until the urine becomes sugar free and your patient is out of the coma. It is then time to begin with the dextrose, with the idea of counteracting the acidosis.

One of the most common mistakes made by the physician in preparing slides for the laboratory for Gram's stain to determine the presence or absence of gonococci, is in making very heavy slides of the material, then placing them face together, before the material is thoroughly dry. Make certain the material is evenly distributed and not too thick. Next, either let the slides dry in the air or gently pass them through a flame. The examiner not knowing definitely where the material comes from, should make his diagnosis in guarded language, merely stating Gram negative intracellular diplococci, are present or not present. I recall a damage suit where a patient obtained a judgment against a laboratory worker for making the positive statement that Mrs. Blank shows a great number of gonococci.

The routine examination of spinal fluid should include the following tests: Wassermann, colloidal gold, globulin, cell count, bacteriological and sugar determination. In collecting the fluid, it should be placed in three or four small sterile tubes. The bacteriologic examination should, as a rule, be directed to the pyogenic bacteria and the tuberculosis bacillus. A direct smear should be made, stained with Grams stain, methylene blue and carbol fuschin. Some laboratories resort to centrifuging the specimen and this is satisfactory for all bacteria except where the worker is looking for the tuberculosis organism. Here, it is best to let the fluid stand for a while, remove the web and make smears from it. Recently, considerable work has been done on the quantative determination of protein in spinal fluid. I would suggest all laboratory workers familiarize themselves with this procedure.

RECENT MEDICAL LITERATURE

Edited by

WILLIAM C. MENNINGER, M.D., Topeka

Insulin Treatment of Anorexia and Malnutrition: Arnold reports in two different series of experiments on 35 tuberculosis patients that insulin was beneficial in gaining weight. He began giving five units thirty minutes before a meal although this time varies in individual patients from twenty minutes to one hour. They increased the dose gradually until the patient is receiving from 15 to 25 units three times a day, varying with the size of the individual and the amount of food that they can be induced to take. They found few contraindications and it was a variable adjunct, particularly in the treatment of anorexia and suitable in almost any condition of undernourishment.

Arnold, D. G.: The Use of Insulin in the Treatment of Anorexia and Malnutrition. Southwestern Medicine 15:568-571. December, 1932.

Role of Syphilis in Feeblemindedness —A great many studies have been made on the part played by syphilis in the causation of feeblemindedness. The great majority of these studies, however, have been based entirely on an analysis of the Wassermann reaction and in a few instances very outstanding pathological somatic signs of syphilis. The result has been that the great majority of workers favor the idea that syphilis plays a relatively small part in the causation of feeblemindedness. Blonfendlenner who is pathologist at the Lexworth Village Thiells, New York, has made a very intensive study of forty idiots taken in an alphabetical order and comes to the conclusion that at least 15 per cent of these idiots were syphilitic and their feeblemindedness related to their sickness. All of these had negative serology. He is not too positive in his statement but leans toward the view that syphilis plays a very major part in the causation of feeblemindedness if it is to be considered, not as an active process, but as the result of a syphilitic toxin.

A. N. Blonfendlenner: Syphilis Without Serological Findings As Seen Among The Feebleminded. Journal of Psycho-Asthenics. 36:225-232. June, 1931.

Clinical Use of Female Sex Hormone— The whole field of hormone therapy has undergone very great changes with strides of progress in the last two or three years. Stragnell summarizes case reports from all over United States on the use of progynon which has been perfected in the Schering laboratories. This endocrine preparation is available both in ampoules and in tablets for oral administration. According to these reports it has been found useful particularly in amenorrhea but also very successful in dysmenorrhea, in the relief of the symptoms of menopause and frigidity as well as nausea and vomiting of pregnancy. One becomes a little suspicious that the one sort of medication is so universally applicable and this is made a little more so when it is known that this study is primarily brought about by the Schering laboratories, altho they did not advocate its usage in nearly all of the difficulties reported by the various physicians using the drug.

Stragnell, Gregory: Clinical Use of Female Sex Hormone. (A Study of 543 Case Reports) Clinical Medicine and Surgery 39:87-93, February, 1932.

The Diagnosis of Hyperthyroidism— In this paper Holmes concerns himself chiefly with an attempt to differentiate between a neurogenic thyroid disorder and a thyrogenic thyroid disorder. He infers that there is a very great difference and suggests that the large neurogenic group simulating hyperthyroidism and usually classified under the term Graves Disease should be designated by some other term and specifically states that hyperthyroidism should be diagnosed with caution in the presence of mental symptoms or where there is a marked chronic degree of nervousness. He apparently recognizes that thyroid disorder in many instances does have a psychogenic origin and yet he cautions us to stay clear of making a diagnosis of hyperthyroidism in the presence of an increased metabolism in nervous disorders.

Holmes, N. E., The Diagnosis of Hyperthyroidism. The Annals of Internal Medicine 5:1028-1032, February, 1932.

74th ANNUAL MEETING KANSAS MEDICAL SOCIETY

Kansas City, Kansas, May 3, 4 and 5, 1932

Headquarters—Soldiers' and Sailors' Memorial Building, Seventh Street and Barnett Avenue.

PROGRAM

"The Importance of Recognizing the Human Aspects in Medical Organization"—Dr. P. S. Mitchell, President, Iola.

"Treatment of Hemorrhoids"—Dr. Barrett A. Nelson, Manhattan.

"Treatment of Anal Fistula"—Dr. J. D. Colt, Jr., Manhattan.

Discussion opened by Dr. Alfred O'Donnell, Ellsworth.

"Practical Considerations in Bone Surgery"—Dr. W. E. Mowery, Salina.

Discussion opened by Dr. L. O. Nordstrom, Salina.

"Surgery in the Treatment of Pulmonary Tuberculosis"—Dr. Earl G. Padgett, University of Kansas, Rosedale.

Discussion opened by Dr. Sam H. Snider, University of Kansas, Rosedale.

"Sensible Food for Diabetics"—Dr. F. A. Trump, Ottawa.

Discussion opened by Dr. M. D. Ballard, Baldwin.

"This Doctor Business"—Dr. Ernest E. Tippin, Wichita.

Discussion opened by Dr. W. G. Gillette, Wichita.

"Is the Profession of Medicine Committing Suicide?"—Dr. C. F. Nelson, University of Kansas, Lawrence.

Discussion opened by Dr. C. C. Nesselrode, Kansas City.

"The Physicians Testimony"—Dr. L. G. Allen, Kansas City.

Discussion opened by Dr. T. G. Orr, Mission Hills.

"Extra-Uterine Gestation"—Dr. C. E. Joss, Topeka.

Discussion opened by Dr. John L. Grove, Newton.

"A New Modification of the Aschheim-Zondeck Test for Pregnancy, with a Review of the Literature"—Dr. Ray A. West, Wichita.

Discussion opened by Dr. L. A. Calkins, Mission Hills.

"Some Observations of Smallpox"—Dr. Geo. W. Davis, Ottawa.

Discussion opened by Dr. C. H. Kinnaman, Topeka.

"Angina Pectoris, More Recent Aspects and Treatments"—Dr. C. E. Partridge, Emporia.

Discussion opened by Dr. D. R. Davis, Emporia.

"Common Vesicular Eruptions of the Hands and Feet"—Dr. C. O. West, Kansas City.

Discussion opened by Dr. E. H. Decker, Topeka.

"Goiter"—Dr. C. S. Newman, Pittsburg.

Discussion opened by Dr. H. W. King, Kansas City.

"Stricture of the Esophagus with Report of Cases"—Dr. L. D. Johnson, Chanute.

Discussion opened by Dr. E. S. Edgerton, Wichita.

"Allergy and Its Relation to Rhinologist"—Dr. Chas. T. Moran, Arkansas City.

Discussion opened by Dr. L. B. Spake, Kansas City.

"A Study of Defects in Hospital Sterilization Practice"—Mr. R. E. Lawrence, Acting Chief Engineer, State Board of Health, Lawrence.

Discussion opened by Dr. C. E. Coburn, Kansas City.

"Undulant Fever with Report of Cases Occurring in Kansas"—Dr. Earle G. Brown, Topeka.

Discussion opened by Dr. Fred Angle, Kansas City.

"Insects and Poisonous Snakes"—Dr. W. A. Hayward, Coffeyville.

Discussion opened by Dr. A. Boese, Coffeyville.

GUESTS

"The Bureau of Health and Public Instruction"—Dr. W. W. Bauer, Director of the Bureau of Health and Public

Instruction, American Medical Association, Chicago, Illinois.

"Diagnosis and Treatment of Lobar Pneumonia in Infants and Young Children"—Dr. Clifford G. Grulee, Clinical Professor of Pediatrics, Rush Medical College, Chicago, Illinois.

"The Offensive and Defensive Factors Associated with Infections of a Mucous Membrane"—Dr. Harvey J. Howard, Professor of Ophthalmology, Washington University School of Medicine, St. Louis, Missouri.

"Acne, Its Variations and Their Treatment"—Dr. Paul A. O'Leary, Professor of Dermatology, Graduate School of Medicine, University of Minnesota, Mayo Clinic, Rochester, Minnesota.

"Rheumatism"—Dr. Ralph A. Kinsella, Professor of Internal Medicine, St. Louis University School of Medicine, St. Louis, Missouri.

"Legislative Activities"—Dr. H. H. Shoulders, Member of Committee on Legislative Activities of the American Medical Association; Secretary of the Tennessee State Medical Association, and Assistant Clinical Professor of Surgery, Vanderbilt University School of Medicine, Nashville, Tennessee.

OUR HOST

The Wyandotte County Medical Society last entertained the state society in 1926. Wyandotte County has an active society with a membership of 115, and having good programs bi-monthly.

Officers

Dr. L. B. Gloyne.....President
Dr. L. V. Hill...Vice President
Dr. Thos. Richmond..Treasurer
Dr. C. O. West.....Secretary
Drs. C. J. Lidikay, J. W. Sparks
and H. L. Regier.....Censors

All general sessions will be held in Trembley Hall, Third Floor, Soldiers' and Sailors' Memorial Building.

MEETINGS OF HOUSE OF DELEGATES

Tuesday, May 3

The House of Delegates will meet in Trembley Hall, third floor, Soldiers' and Sailors' Memorial Building at 7:30 p. m. The following order of business will be observed:

Reading of the minutes of last meeting.

Report of Secretary, Treasurer, Councilors, Chairman of Medical Defense Board.

Report of Standing Committees.

Unfinished business.

New business.

Thursday, May 5

The meeting of the House of Delegates will be held in Auxiliary Room, second floor, southeast corner of the Soldiers' and Sailors' Memorial Building at 8:00 a. m. Order of business:

Roll call.

Election of Officers: President-elect, Vice President, Secretary, Treasurer.

Councilors for the Fourth, Fifth, Ninth, Eleventh Districts and one year unexpired term of the First District.

Unfinished business.

New business.

MEETINGS OF THE COUNCIL

The Council of the Kansas Medical Society will meet in joint session with the Secretaries of county societies on Tuesday, May 3 at 12:15 p. m. in the front dining room, basement, Chamber of Commerce, 727 Minnesota Avenue. Other meetings of the Council will be held at the call of the President.

The new Council will meet in the Auxiliary Room, second floor, southeast corner, Soldiers' and Sailors' Memorial Building, on the last day of the meeting immediately following the meeting of the House of Delegates.

MEETING OF SECRETARIES

Following the custom established seven years ago the secretaries of all county societies will be given a complimentary luncheon on Tuesday, May 3 at 12:15, front dining room, basement, Chamber of Commerce, 727 Minnesota Avenue. This will be a joint meeting with the Council of the Kansas Medical Society. Secretaries will please make luncheon reservations when registering.

GOLF

The Kansas Medical Golfing Association will hold an all-day tournament on Monday, May 2. All members who play golf are invited to join the Association. Dinner for those who play in the tournament will be served on Monday evening at which time prizes will be awarded to the winners. Entry reservation should be made through the local Chairman, Dr. C. J. Mullen, Brotherhod Block, Kansas City, Kansas.

BANQUET

The annual banquet followed by dancing and cards will be held in the Auditorium of the Soldiers' and Sailors' Memorial Building Wednesday, May 4 at 6:30 p. m. for the members of the Kansas Medical Society, their wives, and friends. Please make reservations when registering. Tickets $1.50.

PUBLIC MEETING

A public meeting will be held Thursday, May 5, 8:00 p. m. in the Auditorium of the Soldiers' and Sailors' Memorial Building. Dr. W. W. Bauer, Director of the Bureau of Health and Public Instruction, American Medical Association, Chicago, will address the meeting. His subject will be "Individual Health Improvement."

HOTELS

Grund Hotel, Gould Hotel and Y. M. C. A. The Chairman of the Hotel Committee is Dr. Merle Parrish, 32nd Street and State Avenue, who will be glad to assist in making reservations.

COUNTY SOCIETY NEWS

DOUGLAS COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Douglas County Medical Society was held March 3, 1932 at the Lawrence Memorial Hospital, president A. J. Anderson presiding. Following the business meeting, Dr. Joseph Welker of Kansas City, led a very interesting discussion on the "Treatment of Cardiac Edema." Dr. Welker also presented some very interesting facts and theory regarding the electrocardiograph and his experiments with the fourth lead.

Seventeen members and five guests were present. Adjournment at 9:30 p.m.

Lyle S. Powell, M.D., Secretary.

RILEY COUNTY MEDICAL SOCIETY

The Riley County Medical Society met in regular session at the Wareham Hotel, February 8, 1932. After dinner, the following business and program was completed.

Motion made by Dr. Mathews that the extra fee of $7.00 which included cost of meals, should not be required of out-of-town members. Motion carried. Motion by Dr. Drake that the extra fee of $7.00 which included cost of meals be rescinded for all members and that we return to the old fee of $8.00. Motion carried.

Dr. Mathews read a resolution from the Riley County Council of Public Welfare requesting our society to assist in the handling of crippled children as the society saw fit. Dr. Cave made a motion that the society assist the Riley County Council of Public Welfare and follow the plan suggested by Dr. Mathews.

The application of Dr. Ball of Manhattan for membership in the Riley County Medical Society was referred to the Board of Censors.

A general discussion of ways and means of improving the programs and benefiting the society was indulged in by all present.

Two splendid papers were given by Dr. Drake and Dr. Mathews on the Hygiene of Vision from an Industrial and Educational standpoint. They were enjoyed and discussed by all present.

Members present were: Doctors Mathews, Sharp, Drake, Schoonhoven, Schwartz, Groody, Cave, Nelson and Siever.

Chas. M. Siever, M.D., Secretary.

RUSH-NESS COUNTY MEDICAL SOCIETY

The Rush-Ness County Medical Society met in Dr. T. F. Brennan's office in Ness City, on March 15. Officers elected included: Dr. L. A. Latimer, Alexander, President; Dr. T. F. Brennan, Ness City, vice president and Dr. W. Singleton, Dighton, secretary.

Dr. H. C. Embry of Great Bend gave a short talk.

Dr. D. B. Parker of Ransom is now a member of the society by transfer. The next meeting of the society will be held the last of May at the office of Dr. J. E. Attwood, LaCrosse.

W. Singleton, M.D., Secretary.

SHAWNEE COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Shawnee County Medical Society was held at the Hotel Jayhawk, Monday evening, March 7, 1932. Preceding the meeting, more than fifty members and visiting physicians had dinner together.

Mr. William J. Burns, Executive Secretary, Wayne County Medical Society, Detroit, Michigan, was the guest speaker and discussed "Modern Functions of the County Medical Society."

A proposed amendment to the by-laws providing for the appointment of a Public Relations Committee, was given first reading.

Visitors included: Mr. Burns; Hon. Omar B. Ketchum, Mayor of Topeka; Doctors P. S. Mitchell, President of the Kansas Medical Society and A. R. Chambers, Iola; J. Leonard Dixon, Clay Center; W. A. Smiley and W. A. Carr, Junction City; C. A. Wyatt and C. W. Reynolds, Holton; Paul E. Conrad, Hiawatha; W. K. Fast, Atchison; J. C. Hall, McPherson; T. C. Hinkle, Carbondale; C. L. Miller, Eureka; George Wilson, Topeka; G. L. Teall, D.D.S., Hiawatha, and Mac Cahal, Executive Secretary, Sedgwick County Medical Society.

Earle G. Brown, M.D., Secretary.

SUMNER COUNTY MEDICAL SOCIETY

The Sumner County Medical Society met in regular session February 17, 1932. Dinner was served at the Roadside Barbecue at 6:30 p.m., after which the meeting was called to order by President Clark. The program consisted of a paper by Dr. Paul Carson of Wichita, "Forms of Convulsions in Children" and a paper by Dr. George E. Cowles, of Wichita, "The Maternal Mortality and the Morbidity Rates and Their Control." Both of these papers were timely and extremely interesting.

At a previous meeting, committees were appointed on public health and public relations, and one on economics. These committees were to make recommendations to the society suggesting methods of increasing the value of the society to the community and to the profession. It is hoped that we will come to be on better terms with the public and will find means to increase the education of our people concerning medical matters.

The committee on public relations submitted a list of recommendations, but no action was taken at this time because of the length of the program.

R. M. Price, M.D., Sec.-Treas.

DEATH NOTICES

Martin Kirsch, Abilene, aged 83, died February 27, 1932, result of an automobile accident on February 14. He graduated from Homeopathic Medical College of Missouri, St. Louis, in 1880. He was not in practice and was not a member of the Society.

Samuel H. Kellam, Cherryvale, aged 64, died March 15, 1932, homicide by firearms. He graduated from the College of Physicians and Surgeons, Kansas City, in 1900. He was not a member of the Society.

Walter Johnson Aldrich, Independence, aged 66, died March 9, 1932, of double pneumonia. He graduated from Bellevue Hospital Medical College, New York, in 1893. He had been coroner of Montgomery County for the past six years. He was a member of the Society.

Charles James McGee, Leavenworth, aged 56, died February 29, 1932, at Horton, Kansas, result of an automobile accident. He graduated from University Medical College of Kansas City in 1902. He was a member of the Society.

George W. Walker, Melrose, aged 77, died March 11, 1932, as result of an automobile accident on the main street at Melrose. He graduated from the University of Louisville School of Medicine in 1897. He was not a member of the Society.

George E. Baudry, Atchison, aged 66, died January 23, 1932, of cerebral hemorrhage. He graduated from Hahnemann Medical College and Hospital, Chicago, in 1892. He was not a member of the Society.

KANSAS MEDICAL AUXILIARY

MRS. J. THERON HUNTER, Topeka
Chairman of Publicity

The Seventh Annual Meeting of the Kansas Medical Auxiliary is to be held in Kansas City May 3-4. The committee in charge has planned a very interesting program and promises a most enjoyable two days.

It would be particularly nice to have a large group of Auxiliary members attend this convention because of the exceptional good fortune we have in procuring Mrs. A. B. McGlothlan, the National President, as the main speaker. Everyone who has heard Mrs. McGlothlan is enthusiastic over her charm and ability.

The program for the meeting in Kansas City is as follows:

Headquarters — Auxiliary Room, second floor, Soldiers' and Sailors Memorial Building, Seventh Street and Barnett Avenue.

PROGRAM

Tuesday, May 3, 1932

Registration—Auxiliary Room, second floor.

2:00 p. m.—Automobile ride through the residence districts of greater Kansas City, starting from Soldiers' and Sailors' Memorial Building.

4:00 p. m.—Tea at the home of Dr. and Mrs. C. C. Nesselrode, 927 Cleveland Avenue.

Wednesday, May 4, 1932

1:00 p. m.—Luncheon, Quivera Lakes Club House. Tickets 75c. Automobiles will leave Soldiers' and Sailors' Memorial Building promptly at 12:15 p. m.

Address: Mrs. A. B. McGlothlan, National President, St. Joseph, Missouri.

Business Meeting will immediately follow.

6:30 p. m.—Annual Banquet, Auditorium Soldiers' and Sailors' Memorial Building.

LOCAL COMMITTEES

Mrs. L. B. Gloyne.....Chairman
Mrs. C. C. Nesselrode.....Reception
Mrs. L. B. Spake.....Luncheon
Mrs. F. S. Carey.....Transportation
Mrs. L. G. Allen.....Registration

Kansas Medical wives come with your husbands to the convention. Give yourself a vacation and enjoy with the other Kansans the contacts and pleasurable renewing of friends that conventions bring.

A new Auxiliary was organized in Garden City the middle of March. We are wishing them all success and hope that they will find their organization meritorious.

Mrs. C. B. Van Horn visited the Auxiliary in Wilson County April 11 and expects to go to Brown County shortly.

Mrs. Van Horn is very interested in seeing the Kansas Auxiliaries develop and is most willing to co-operate with any of the local groups. She is a very interesting speaker and the places that she has visited have been most enthusiastic about her.

Mrs. Freeman's letter in the March A.M.A. Bulletin contains a personal message to each of us and every member should read it.

The forthcoming convention at New Orleans, May 9-13, will be the tenth annual meeting of our Auxiliary, and the preliminary program is submitted herewith.

Headquarters—Jerusalem Temple, 1137 St. Charles Avenue

PRELIMINARY PROGRAM

Monday, May 9, 1932

6:00 p. m. National Board Dinner and Pre-Convention Meeting (for Board Members only)—Orleans Club, 5005 St. Charles Ave. Tickets $1.50.

Tuesday, May 10, 1932

9:00 a. m. General Meeting—Jerusalem Temple, Mrs. Arthur B. McGlothlan, presiding.

12:30 p. m. Buffet Luncheon—Jerusalem Temple. Tickets $1.00.

2:00 p. m. Walk through Vieux Carre, with Guides—Starting from the Patio Royale.

4:00 p. m. Tea—Patio Royale.

8:00 p. m. General Meeting of the

American Medical Association—Auditorium.

Wednesday, May 11, 1932

9:00 a. m. General Meeting—Jerusalem Temple, Mrs. Arthur B. McGlothlan, presiding.

12:30 p. m. *Auxiliary Luncheon—Southern Yacht Club (12 minutes from Canal Street or Jerusalem Temple. Luncheon tickets, $1.50; Transportation, 25 cents.)

2:30 p. m. Post-Convention Board Meeting—Southern Yacht Club.

2:30 p. m. *Through Garden Gates; Glimpses of New Orleans.

4:00 p. m. Teas in Private Residences.

NEW ORLEANS COUNTRY CLUB

8:30 p. m. Divertissements in the Garden.

10:00 p. m. Buffet Supper—Negro Spirituals—Courtesy of the Woman's Auxiliary to the Louisiana State Medical Society.

Thursday, May 12, 1932

9:00 a. m. General Meeting—Jerusalem Temple, Mrs. Walter Jackson Freeman, presiding.

10:00 to 10:50 and 11:00 to 11:50—Special Round Table Conferences—Jerusalem Temple.

12:00 noon. Buffet Luncheon—Jerusalem Temple. Tickets $1.00.

1:00 p. m. *Trip to Oak Alley Plantation; visiting Spillway. Returning at 6 p. m. (Round trip, $2 per person).

2:00 p. m. *Round-trip over Lake Ponchartrain, via New Bridges ($2 per person).

2:30 p. m. *Trip to Versailles Plantation, Battle Field of New Orleans; Docks and Wharves (Round trip $1 per person).

2:30 p. m. *Delgado Museum and City Park; Newcomb Art School and Audubon Park (Round-trip $1 per person).

2:30 p. m. *Mayan Exhibit—Tulane University (Round-trip, 25 cents per person).

9:00 p. m. President's Reception and Ball—Auditorium.

Friday, May 13, 1932

9:00 a. m. *Trip to Gulf Coast—Leaving L. & N. Station at 9 a. m., returning to New Orleans at 6 p. m. (Round-trip, including Luncheon and beautiful scenic

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THE JOURNAL
of the
Kansas Medical Society

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ORIGINAL ARTICLES

ACUTE LARYNGOTRACHEITIS IN CHILDREN

Hugh L. Dwyer, M.D.
Department of Pediatrics

The majority of children with inflammatory disease of the larynx present the relatively benign catarrhal laryngitis with more or less spasm of the laryngeal muscles. There are many gradations from the simple catarrhal laryngitis with few symptoms except a transitory hoarseness on the one hand and spasmodic laryngitis with its alarming inspiratory stridor usually occuring during the night. The latter condition is usually relieved by ipecac, Dover's powder, moist air inhalations or a hot bath. When the inspiratory dyspnoea is not relieved by emetics and antispasmodics it is probably due to swelling of the subglottic mucus membrane.

In the older text books this condition was described as "Acute Subglottic Laryngitis." More recently Baum has described this non-diphtheritic infectious laryngitis under the term acute laryngotracheobronchitis. Laryngoscopic examination of these cases show involvement of the trachea and in the six fatal cases in the series of twenty-eight reported by Bradford and Leahy, bronchopneumonia was found in every instance.

During the past year four patients were observed with non-diphtheritic laryngeal obstruction and two with a diphtheritic membrane filling the larynx. The patients with diphtheria were aged 7 and 9 months respectively. They had not been immunized against diphtheria and in both instances the diagnosis was very evident, the characteristic membrane covered the pharyngeal wall and B. diphtheria were obtained from cultures. Large doses of antitoxin and prompt tracheotomy were of no avail. Both infants died within twelve hours after admission to the hospital.

In the non-diphtheritic cases the onset was abrupt and became progressively worse. Three were given diphtheria antitoxin after obtaining no relief from large doses of syrup of ipecac, Dover's powder and moist vapor inhalations.

When no relief was obtained by these measures, direct examination of the glottis and trachea was made in three of the cases. In two cases no membrane was found, in one case a membrane covered the vocal cords from which direct smears showed streptococci and cultures, streptococci and diplococci, presumably pneumococci. One patient died without tracheotomy. The second died on the second day of the disease after tracheotomy. This was the child showing the membrane on the cords and was extremely exhausted and toxic at the time of operation.

In the two patients that survived, the possibility of tracheotomy was explained to the parents while the various simple measures were being tried and the children were moved to the hospital, not for the purpose of immediate operation but to be prepared for opening the trachea if necessary before the child become too exhausted from dyspnoea to impair its recuperative powers.

CASE REPORTS

Case 1. Joseph H., aged 15 months, was a phlegmatic, over-weight child commonly described as the exudative type. He became ill with a "cold, sore throat and husky voice." Two days before the onset of the illness he was visited by his aunt who had laryngitis and aphonia and who had received medical attention for the condition. Examination of the child on the second day of illness revealed a reddened throat, inspiratory dyspnoea with a high pitched crowing sound and a temperature of 102° F. The lungs were normal. Syrup of ipecac, Dover's powder

and inhalations were prescribed. On the following day there was a harsh croupy cough, depression of the suprasternal notch at each inspiration, the throat was only slightly reddened and the temperature was 101° F. The Dover's powder no doubt influenced the fever. The child had not rested very much during the night and while he appeared no worse than at the first examination, it was apparent that we were not dealing with an ordinary case of spasmodic croup. Although no membrane was seen 10,000 units of diphtheria antitoxin was given intravenously and 10,000 units intramuscularly. The baby was then moved to the hospital to be ready for instrumentation in case the dyspnoea persisted. Five hours later the breathing became more difficult, the accessory muscles of respiration were brought into play but the child was not toxic or cyanotic.

Fluoroscopic examination was made to eliminate the possibility of foreign body in the air passages. Roentgen examination was negative, the thymus was of normal size.

Bronchoscopic examination was made without difficulty and revealed an inflamed edematous larynx and a very slight white area on the vocal cords which came away easily with suction.

The edema extended below the glottis well into the trachea. A small amount of mucus was aspirated through the bronchoscope from the trachea. A low tracheotomy was done and with the administration of moist vapors for the following twenty-four hours the child had complete relief and a rapid convalescence. The tube was removed and the patient left the hospital at the end of one week. Cultures made from the substance aspirated from the vocal cords showed streptococci.

Case 2. J. D., aged 4 years, became ill during the night with a croupy cough. On the following day the symptoms did not abate as is usually the case with spasmodic croup.

In the meantime the child had been given calcidine tablets. Examination twelve hours after the onset if symptoms revealed a very red throat, enlarged tonsils, no membrane, marked dyspnoea and a temperature of 103° F. Dover's powder 3 grains every two hours, syrup of ipecac sufficient to produce vomiting and inhalations of moist vapor with benzoin and menthol failed to give relief. Twenty thousand units of antitoxin were given intravenously. Direct examination of the larynx revealed edema of the arytenoids and larynx extending well into the trachea. Considerable thick tenacious mucus was aspirated from the trachea. Low tracheotomy was performed and recovery was rapid, the tube being removed on the tenth day.

COMMENT

In respiratory distress in young children of a few days duration, diphtheria should be thought of first. Casual examination of the throat may show no membrane but no harm is done in administering antitoxin. This should be given intravenously to get the prompt effect in case the condition is due to diphtheria. Direct inspection through the laryngoscope will eliminate diphtheria; if no membrane is present, the inflammation and edema are probably caused by a variety of the streptococcus. In Bradford and Leahy's cases the predominant organism was a green producing non-hemolytic streptococci. Other observers report hemolytic streptococci, pneumococci micrococcus catarrhalis and all varieties of new micrococci of staphylococci.

The principal pathologic changes are found in the larynx and trachea. The marked subglottic edema, swollen arytenoids, tracheitis, bronchitis, with or without a membrane on the vocal cords are the characteristic findings.

One who has seen these cases will not regard lightly, any case of spasmodic laryngitis or simple croup. Edema of the glottis in older children with gradual onset and without progressing rapidly to laryngeal stenosis is more apt to be secondary to nephritis. There is little danger of confusing this with the laryngotracheitis which is more common in the first two years of life.

Confronted with a case of laryngitis it is well to eliminate the possibility of diphtheria. If the child has been immunized it is reasonable to assume that he is

immune, and proceed with the usual methods of relieving spasmodic croup. If dyspnoea becomes more marked antitoxin should be administered and close observation made until the symptoms abate. If no improvement follows or if the symptoms become more pronounced preparation should be made for a tracheotomy before the child is exhausted from loss of sleep and dyspnoea. Intubation is advised by several writers. In my own experience the involvement of the trachea and the amount of mucus expelled through the tracheotomy tube leads me to believe that an intubation tube would be inserted with difficulty, that it would not relieve the obstruction below the glottis and the danger of it filling with mucus would embarass the patient.

SUMMARY

In every case of laryngitis in young children, especially if inspiratory dyspnoea is present, the possibility of acute laryngo-tracheitis should be considered. The dyspnea in these cases is due to edema of the subglottic tissues, with or without a non-diphtheritic membrane on the vocal cords.

If relief is not prompt following the use of antispasmodic and emetics, diphtheria antitoxin should be administered and the child moved to the hospital for further observation.

While in the hospital roentgen examination can be made for foreign body in the air passage and direct inspection of the larynx and trachea through the bronchoscope made to ascertain the presence of a exudate in the larynx, the condition of the mucus membrane and the possibility of foreign bodies that escape the *x*-ray. It may be possible to remove an exudate on the cords.

Tracheotomy should be performed before the child becomes exhausted to a degree that seriously impedes its great recuperative power.

———℞———

..President Hoover praises the corner drug store for its service to humanity, and we guess it is one of the few remaining places where one can get home cooking.—*Ohio State Journal.*

NON-SUPPURATIVE OSTEOMYELITIS

Presentation of a Case of Serous Osteomyelitis

C. B. Francisco, M.D., and
Galen M. Tice, M.D.

Departments of Orthopedics and Roentgenology

Acute suppurative osteomyelitis will often offer considerable difficulty in diagnosis clinically but in the ordinary case the roentgenographic examination a few days after onset usually offers decisive evidence of infection. It is in the non-suppurative types of osteomyelitis that a differential diagnosis from malignancy is necessary. A case recently observed by us illustrates this point.

CASE HISTORY

C. F.—The patient, a white boy of sixteen years, was admitted on the orthopedic service of the Kansas State Medical School Hospital, January 28, 1931, complaining of weakness in his hip with inability to walk without assistance of a cane. His past history until six months prior to admittance is unimportant. He had the usual childhood diseases and was perfectly well until September 1, 1930, at which time he fell down stairs. He attributed the beginning of his trouble to this incident. On close questioning the patient remembered that he had an infection on his right ankle at about this time which he thought was a boil. At about this time the patient noticed his leg "giving way" so that he almost fell several times while walking. A local doctor suggested the possibility of tubercu-

FIG. I

losis of the hip and recommended hospitalization. At no time would the pa-

tient admit the presence of pain. General physical examination revealed nothing of importance. He walked with a limp and had to depend on a cane for support. Examination of the right hip showed no limitation of motion on passive manipulation. Glands were palpated in the right inguinal region and a fluctant mass was palpated in Scarpa's triangle. The right thigh measured 54 cms. in circumference as compared to a circumference of 40 cms. on the left. No definite point of tenderness could be elicited. Temperature on admission was 98.4. During the next fifteen days it went above 100 twice only. Laboratory findings:

Hemoglobin 63 per cent: white blood cells 13,900; with 68 per cent polymorphonuclear leucocytes.

Urine negative to routine examination; Wassermann and Kahn negative. Roentgenographic examination:

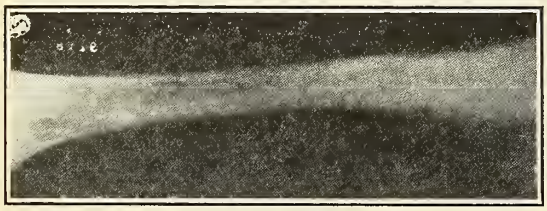

FIG. II

The patient was referred to the *x*-ray department with a clinical diagnosis of ilio-psoas abscess pointing in the groin. A lateral spine plate was requested. The house physician being influenced by the admission diagnosis of tuberculosis of the hip asked for a hip plate. Both spine and hip were negative roentgenographically but the upper portion of the femur and femoral head showed cystic areas with a destruction of cortical bone and a marked periosteal reaction. The periosteum presented a shaggy bone production with spicules standing at right angles to the shaft (Fig. 1). Another plate including the entire femur was taken (Fig. 2). In the meantime a provisional diagnosis of osteogenic sarcoma of the femur was made. Subsequent plates showed an involvement of the entire femur. The appearance in the lower portion of the shaft was more that of an infectious than a malignant process.

On February 10 the fluctuant mass in Scarpa's triangle was aspirated and 400 c.c. of a straw colored sero-albuminous fluid was withdrawn. This fluid could best be described by comparing it to urine in color and consistency. No pus cells were found. On four different occasions between February 10 and April 1, fluid was aspirated. Three of these specimens grew staph aureus and one was negative on culture. A guinea pig was inoculated and subsequent autopsy showed no tuberculosis. On March 3 after a diagnosis of suppurative osteomylitis had been fairly well agreed upon by all consultants, an operation was performed for purpose of biopsy. The periosteum was found to be thickened and rough. Necrotic, hemorrhagic, medullary tissue was removed. The pathological report on the microscopic section was as follows: "The section shows rather extensive infiltration with monuclear and polynuclear leucocytes, the latter predominating. There is considerable inflammatory tissue and much hyaline fibrous tissue is seen. There is abundant endothelial cell proliferation. In some places there are clumps of giant cells of rather a small type that appear to be of the foreign body type though they are not numerous. In addition there is a considerable number of round or oval cells with a markedly vacuolated appearing cytoplasm giving the appearance of so-called lipoid cells. The picture as a whole is that of an inflammatory process both of an acute and a chronic type. It seems to be quite active. There is nothing in the section to suggest a neoplastic osteomyelitis.

Drainage persisted for some time following the above procedure and was profuse but at no time did it become purulent. On March 31 the medullary canal was cleared of soft spongy, necrotic material and on June 26 a final sequestrectomy was done. The patient was dismissed on June 29. Communication with the doctor in charge of the case after he left the hospital was had six months later. He informed us that the drainage became quite purulent after leaving the hospital and still persisted when he last saw the case. We have been unable to

get the boy back for further observation.

Of interest is the fact that while R. F. was in the hospital his brother came in with a diagnosis of osteomyelitis of the left femur. A brief summary of his history is included.

J. F.—a white boy—fifteen years old was admitted to the hospital on May 21, 1931, complaining of a running sore on his left thigh. In September, 1930, he had a boil on his left knee which ran its usual course. Following healing of the boil the left thigh began to swell. It became painful and glands were felt in the left inguinal region. He was not confined to bed. In January, 1931, a doctor was consulted because of some pain in his leg. Eventually fluctuation made it imperative to lance the leg. Drainage occured and persisted when seen on admission to the hospital. *x*-Rays showed a chronic osteomyelitis involving the upper third of the femur (Fig. 3). Sequestrec-

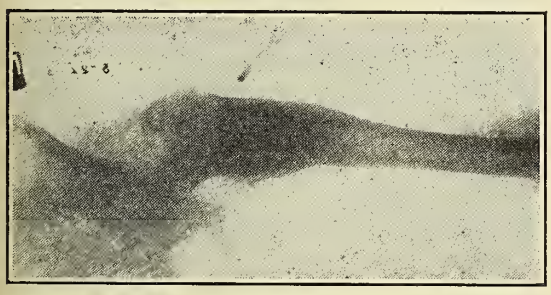

FIG. III

tomy was done and a recent report indicates that progress since leaving the hospital has been satisfactory (Fig. 3). This patients Wassermann and Kahn is negative.

COMMENT

Our difficulty in differentiating osteomyelitis from malignancy is not unique. Two main types of non-suppurative osteomyelitis have been described. The most common of the two types was first described by Garre[1] of Tubingen in 1891. This type is characterized by bone production and bone sclerosis. The clinical history is usually quite characteristic of an acute osteomyelitis. No pus is found, however, and with subsidence of the temperature the swelling of the soft parts disappears. Jones[2] in 1921 reported the first case of this type in this country and reviewed the literature to date. Since this time typical cases have been reported by Kurtz[3] and Shellito.[4] This type is very concisely described by Geschickter and Copeland.[5] They emphasize the fact that a differential diagnosis from Ewing's tumor must be made. Their description is essentially as follows: The lesion is solitary and usually affects the tibia. It usually has an acute onset with fever and leucocytosis which rapidly subsides into a clinical course extending over several years. Roentgenograms may closely resemble Ewing's tumor. Due to a stimulation of new bone formation in the periosteal and cortical zones, ossification is seen with an obliteration of the marrow canal. The sclerosing osteomyelitis they consider to be the result of a low grade infection in the lymphatics of the bone which brings about a fibrous and fibro-osseous proliferation resulting in a thickening of the periosteum and diminishing vascularity in the regions affected.

In 1890 Cheyne[6] reports a case of necrosis of the radius without suppuration. At operation he found a thick periosteum, highly vascularized bone, necrosis but no pus. He classified this as a case of "quiet necrosis" to conform with a name applied to a similar case described and named by Sir James Padget several years before. Knaggs[7] describes the same condition and calls it "serous osteomyelitis." Winkelbauer[8] reported a case in which the *x*-ray showed osteomyelitis and in which a cloudy serous fluid containing staphlococci was obtained on puncture. The case resembled ours in that the entire diaphysis showed evidence of involvement, there was no acute stage and the albuminous exudate changed to pus following operation. He names the condition which is evidently the same as that described by Padget and Knaggs, "chronic albuminous osteomyelitis." Hertzler[9] operated a case answering the above description several years ago. No suppuration was found at operation but it drained profusely following operation and some pus still drains at the present time. Gratz[10] presented a case in 1929 in which a differential diagnosis from sarcoma was made with difficulty and which on operation

showed a thick periosteum, a moth eaten cortex but no pus. Microscopic sections resulted in a diagnosis of an inflammatory process.

The pathogenesis of this type of non-suppurative osteomyelitis has been incompletely studied because of the small number of cases on record. The primary infection in our case was evidently only a short time prior to the symptoms for which the patient was hospitalized. In Hertzler's case the patient had a definite osteomyelitis fifty years before. Of the cases reviewed the outstanding findings are—little pain or tenderness, insidious onset, extensive bone destruction and periosteal proliferation. No pus is encountered at operation but in most cases staphlococcus aureus was cultured from the serons fluid encountered. Suppuration, as pointed out by Hertzler invariably follows surgical interference. Cohn[11] makes a statement which, if it had been given due consideration in our case would have been of value in making a differential diagnosis from the *x*-ray plate. He says "In rare instances we have seen extensive ossification extending the entire length of the shaft of a long bone. When this occurs it is as pathognomonic of a benign lesion as are horn shaped pedunculated exostoses." Knaggs[7] considers the necrosis due to an attenuated organism. A more logical theory it seems to us is that of Winkelbauer who accounts for the massive necrosis by occlusion of the nutrient artery by an embolus. Necrosis results followed by liquefaction and the formation of a periosteal mantle of bone.

The case of the brother J. F. should not be passed by without coment. On admission this was readily diagnosed chronic suppurative osteomyelitis. The points of interest are that the original infection was a boil; the enlargement of the thigh was noticed before there was much pain; at no time was the patient sufficiently ill that he had to go to bed until after the thigh had been lanced. These points are similar to the facts found in the history of the brother C. F. Although a positive statement cannot be made we have to wonder if this was also primarily a non-suppurative osteomyelitis of the serous type which began to suppurate after surgical interference. Against this opinion is the fact that only the upper portion of the femur is involved in the case of J. F.

SUMMARY

1. A case of serious osteomyelitis without suppuration is reported.
2. A brief report of a case of osteomyelitis of the femur of the brother of the above patient is described. When seen this case was of the usual suppurative type although the history of the development of the case did not follow the usual course of a chronic osteomyelitis.
3. Two types of non-suppurative osteomyelitis are described in the literature. Garre's osteomyelitis must be differentiated from Ewing's tumor. Serous osteomyelitis may resemble an osteogenic or periosteal sarcoma.
4. Too much dependence must not be placed on the occurence of perpendicular striations as a pathognomonic sign of malignancy of long bones.
5. Pathogenesis of serous osteomyelitis is as yet undetermined.

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ANOTHER CASE OF FOREIGN BODIES IN THE STOMACH

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A survey of the literature on "foreign bodies" will show a surprisingly large number of cases and also a great variety of material swallowed, either accidently or intentionally. This is not a recently acquired habit for Layton ('30) calls attention to an historic case of a four-year old child of a royal family who swallowed his shoe buckle in the year of 1692. The buckle passed through the digestive tube,

was recovered and is now on exhibition.

This case is reported merely to add one more interesting case to the already extensive list. Miss A. died unexpectedly in one of our State Institutions after what was diagnosed as enterocolitis of five days duration. She had had some heart trouble for a year preceding her death. She was a 16-year-old white girl of low grade mentality.

FIG. I
Material removed from the stomach of sixteen year old, white girl.

When the body reached our laboratory it was well preserved and it showed a well nourished young woman, but the face clearly indicated her low grade mentality. The body was given our usual treatment of further embalming and storage in our tanks. This body was held in a two per cent solution of phenol for eleven months before it was put on the table for dissection. There was nothing unusual noticed until the abdominal cavity was opened and then in the examination of the viscera a mass of hard material could be felt through the stomach walls.

The stomach was distended but otherwise of normal shape and position. The mucosa did not seem to be injured although it was much smoother than usual due to the distention of the organ. The contents when removed proved to be a tangled mass of string, coarse thread and safety-pins. The mass was put aside and allowed to dry and then weighed on a laboratory balance. The entire mass weighed (dry weight) 253.2 grams. There were 140 entire safety-pins and only the head of another. These were all of the same size, being 5 cm. long. In addition there were four grommets, 18 mm. in diameter and with cloth enclosed; a small rock weighing 0.459 grams; one button one cm. in diameter; two beads, one an elongated bead 11 mm. in length and the other spherical with a diameter of 5 mm., and four teeth from a comb. These teeth were not all of the same length, one being 4x24 mm. and the three others smaller. The accompanying figure will give an idea of the tangled mass of safety-pins and string, with the beads, grommets and teeth from the comb at the top of the figure.

None of the metal objects were badly corroded. Macalister ('29) reports the removal of a dinner fork which had been in the stomach from March 5, 1929, to April 7, 1929. This was a large dinner fork seven and one-half inches long. He says, "the handle half was seen to be unaffected by its long stay in the stomach, but the other half, which had been pointing towards the cardiac end, was corroded and black in color." We have no way of knowing how long these pins and other objects had been in this girl's stomach, but the condition of the pins would indicate that they had not been there very long or that they had resisted the action of the gastric juice better than the fork. If these objects were swallowed but a short time before she died she must have made a regular diet of safety-pins.

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Laxatives sometimes have been represented as headache remedies. Only those headaches that are due to digestive disorders may be relieved in this way. There are numerous causes of headaches, and the buyer should realize that he is getting a laxative and not a headache cure, Dr. Solon R. Barber warns Hygeia readers.

THE DIAGNOSES AND TREATMENT OF SYPHILITIC AORTITIS*

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The history of the development of syphilitic aortitis, as an entity, is a dramatic one. It is the story of an army of research workers, pathologists and clinical observers, who started their work back in the 16th century, in a field of confusion, and, after four centuries of brilliant contributions, we can now obtain a clear view of what was then a cloudy field. I shall retrace some of this history.

Ambrose Paré, in the 16th century, was the first to suggest that syphilis predisposed to atheroma and that there was a relation between aneurysm and syphilis. Lancisci, 1728, and Morgagni, 1761, published works which showed that they were familiar with the role of syphilis in aneurysm. It remained, however, for Francis H. Welch, an English pathologist, to first publish, in 1876, a paper on Fibroid Aortitis. In this paper Welch described the essential histological and gross features of aortitis. Forty-six per cent of his cases of fibroid aortitis showed clear evidence of syphilis. This was really the beginning of the work which was to establish syphilitic aortitis as an entity.

In 1888, Dohle published a report on syphilitic aortitis in which he defined it as a specific inflammation of the adventitia and media which terminates in a cicatricial deformity. This work was followed by many contributions from the French. The next convincing evidence was presented in 1906 by Reuter. Schaudinn and Hoffman, in 1905, showed that Treponema pallidum was the specific cause of syphilis, and Reuter demonstrated Treponema pallidum in sections taken from syphilitic aortas. Wassermann, in 1905-06, described the complement fixation test, which completed our chain of evidence, as this last is found positive in 80 to 90 per cent of cases. Longcope, in 1912, published one of the most complete descriptions of this disease in which he described beautifully the clinical picture. One can realize the frequency of this disease by recalling that 4 to 7 per cent of all patients who come to autopsy in general hospitals show syphilitic aortitis. Rach and Wiesner found typical changes of syphilis in the aorta and pulmonary arteries of 67.4 per cent of congenital syphilitics.

In order better to understand the subject, a review of the morbid anatomy will be necessary. As we all know, after the local lesion appears, syphilis becomes a spirochetemia. It seems to have a predilection for the aorta and there is pathologic evidence that about the vasa vasorum are spirochetal rests in which the organisms have accumulated and about which round cell infiltration appears. Klotz has pointed out that the inflammatory process is, in part at least, periaortitis coming from the lymph nodes about the base of the aorta in the mediastinum. The process usually originates just above the root of the aorta and may involve the orifices of the coronaries and extend up into the arch or may involve the ring and extend to the aortic valves, producing a puckering or destruction of the valves with an aortic insufficiency. Weakening of any portion of the wall may produce an aneurysm. In the early stages, we have the typical pale, gray, succulent lesions that may be circumscribed or confluent. Later the patches are tougher, more extensive, and intermingled with pitted, scarred and puckered areas. These lesions are characterized by the absence of fatty degeneration and calcification in contrast to changes found in atheromas. On microscopic section, one sees the most striking changes in the media. There are seen newly formed vessels with a perivascular round cell infiltration and fragmentation of the elastica. Later the process becomes extensive in the adventitia and a coagulation necrosis in the media may be seen surrounded by round and plasma cells. Finally, the three coats are involved in this inflammatory process and the healing process leads to a replacement fibrosis which later undergoes cicatricial contraction. This process described usually develops over a period of ten to fifteen years. There are cases re-

*Read before Wyandotte County Medical Society, Feb. 16, 1932.

ported by Brooks, however, in which a perforating aneurysm took place before the secondary rash fully appeared; and another in which an aortic regurgitation producing death occurred six months after infection. Longcope reports two cases dying four years after developing a chancre with syphilitic aortitis.

Longcope reports that 30 per cent of his patients were between 20 to 30 years of age and 80 per cent under 50 years old. This compares closely with reports of other series of cases. The disease seems to be about three times as common in males as in females. The Negro seems to be especially susceptible, but this condition, in all probability, may be accounted for by neglected and insufficient treatment.

The association of tabes and aortic disease was first noted by Vulpain and was explained, for a long time, on the basis of a trophic disorder being analogous to a perforating ulcer. Babinski, in 1901, pointed out, however, that tabes and aortic insufficiency may co-exist. Heitz further elaborated on this condition in 1903. Vaquez has called the existence of aortic disease with the absence of knee kicks, Argyll-Robertson pupil and a lymphocytosis of the cerebro-spinal fluid, Babinski's Syndrome. The recognition of this syndrome is very important, not only from a diagnostic standpoint, but also to insure proper and adequate treatment.

The most striking subjective symptoms are substernal pain or oppression, palpitation, tachycardia and dyspnea, which may come on with only slight exertion. In 60 per cent of Bruce's cases, pain was a dominant symptom. One-half of it was precordial and one-half angina in type. Dyspnea occurred in 60 per cent and palpitation in 68 per cent of his cases. Longcope gives these figures: pain 66 per cent, dyspnea 77 per cent. While we agree that pain of some type is found in about 50 to 60 per cent of our patients, we would place dyspnea and palpitation both as earlier symptoms and as being found in a much higher percentage of cases. We have all seen these patients develop a regurgitation and congestive heart failure and deny ever having had pain. The pain may be of several different characters, being described as a "substernal ache," "fullness in the throat" or "chest in a vise" or may be typical angina pectoris with pain radiating to the back, to epigastrium, up the side of the neck or down left arm, or both. Some patients complain of increased pain in recumbent position, others upon exertion. These pains are usually mild at the onset, infrequent also, but become more severe and more frequent as the disease progresses. There are, usually, attacks of dyspnea associated with the pain; many cases show a tachycardia with a rise in blood pressure. The more severe type may show a marked fall in the blood pressure.

There is a type of paroxysmal dyspnea that should receive especial mention for it is often mistaken for allergic asthma, cardiac asthma and, sometimes, bronchial asthma. These attacks most frequently come on at night and may awaken the patient from a sound sleep and terrify those about him. He is suddenly seized with a great difficulty in breathing, becomes cyanotic, there is a heaving of the chest, patient is cold and clammy, pulse is very small in volume and very rapid. One usually hears asthmatic and sibilant rales throughout the chest. These attacks are often unaccompanied by pain and are benefited by nitro-glycerine and morphine. Adrenalin or the ephedrine compounds usually do not give much relief. Patients may die in these attacks or may completely recover, except for exhaustion, almost as quickly as the attack came on. I have had the unhappy experience of seeing two patients die in these attacks, in the past year. One patient was 36 years old, the other 52 years old; neither had had pain and both died within forty-five minutes after onset of attack. If there is anything more terrifying in the practice of medicine, I do not care to see it.

Unexplained fever at times may be due to syphilitic aortitis. Paplaff, 1912, reported three cases of aortic insufficiency with an unexplained fever that disappeared rapidly after specific treatment. Longcope reports one case having

fever for eleven days, at times as high as 101°, which disappeared after the first dose of salvarsan.

On physical examination, one does not often find much upon which to base a diagnosis. There is often an accentuation of the second aortic sound which has the bell like quality first mentioned by McCrae in 1910. A systolic murmur may be heard over the aortic region. This is heard only after exercise in some cases. If the disease has progressed to a late state, one may be aided by *x*-ray examination of the aorta, which will show dilatation or aneurysm.

The Wassermann test has been found positive in 80 to 90 per cent of these cases. The full understanding of the course of events which take place from the time the spirochete invades the aorta until we first see the case is necessary if we are to prevent the rather hopeless late manifestations. Most medical men are agreed that syphilis, when seen in the primary stage, should be treated intensively for two years, and this should be followed by blood and spinal fluid examinations and treatment continued until the serology is negative. If this procedure were followed in every case, we should see practically none of the later manifestations of syphilis. If these patients are first diagnosed after syphilitic aortitis has begun to manifest itself, one should proceed cautiously with the arsphenamines. There should be a preparatory period of iodides and mercury by mouth for a period of two or three weeks. This may be followed by bismuth injections and finally by small doses of neoarsphenamine; starting with .2 gm. of neo weekly and if no reaction is noted, increase dosage to .3 gm. the third week, and then to .45 gm. the 8th week. Iodides may be continued throughout the course of the treatment. There can be no definite plan laid out for treatment of these cases. Each one is a different type and the wholesale treatment of these cases in clinics without careful individual study is a dangerous procedure. If ever medical judgment is needed, it is in the careful handling of the many patients in this group.

In conclusion, I should like to emphasize that every patient seen with any or all of the following symptoms, dyspnea, asthma, tachycardia, substernal pain, angina and palpitation, with a positive Wassermann test or history of infection should suggest the diagnosis of aortitis. Also those individuals with signs of neurological syphilis with cardiac symptoms and a negative Wassermann may have syphilitic aortitis. We don't wait for perforation in typhoid or development of cavities in pulmonary tuberculosis to make a diagnosis; why wait for aneurysm, regurgitation or coronary sclerosis to diagnose syphilitic aortitis?

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GENERALIZED FETAL EDEMA (Hydrops Fetus Universalis)—Report of a Case

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Generalized foetal edema is still sufficiently rare to merit its report since approximately only one hundred cases have appeared in the literature to date. Furthermore, had we been sufficiently familiar with this condition, an accurate diagnosis might have been made in the ante-partum period which naturally would have altered the management of our case. The incidence of universal foetal hydrops has been estimated variously at one in two thousand to one in three thousand births by such authorities as Döderlein[1] and Stoeckel.[2] We have observed three cases in a series of 2,797 deliveries in St. Luke's Hospital from January 1, 1928, to January 1, 1931, an incidence of about one in one thousand births. The obstetrical history of one of

these cases presented some very interesting clinical features.

CASE REPORT

Mrs. A., white, an American housewife, twenty-four years of age, the mother of a normal six-year-old daughter, presented herself as a private patient for prenatal care on May 21, 1931. Her family history was essentially negative. Her past history may be interpreted as of importance in light of later developments. At the age of six, she had diphtheria rather severely but recovered after receiving several administrations of antitoxin. No precautionary measures relative to cardiac involvement were followed after this illness. She had always been considered as of the "delicate type" and was subject to frequent attacks of tonsillitis until removal of tonsils and adenoids at the age of seventeen. Since that time she had several attacks of "flu." Menstruation, which began at the age of twelve, was fairly regular but with a six-week interval. The flow varied from one to eight days and cramps were rare. Soon after marriage, she conceived and subsequently gave birth to a normal 6 lbs. 14 oz. female child. The only outstanding features in her mind about this pregnancy were profound lassitude which she experienced throughout the period of gestation and the fact that she considered the labor to have been two weeks overdue. The delivery was normal after twelve hours labor. She regained endurance slowly and nursed the child only a few weeks. There have been no further pregnancies until the present one.

Present History—At the time of her first examination, the following features were present: The patient was a retiring, anemic appearing, undernourished, pronounced brunette complaining principally of dizzy spells. There was no evidence of cardiac pathology found. On examination, the blood pressure was 118 systolic and 60 diastolic, her height was 5 ft. 2 in., and she weighed 105 lbs. A bimanual examination revealed that her uterus was enlarged to the size of three months' gestation (last menstruation February 22, 1931) corresponding to the period of amenorrhoea. The uterus lay in sharp retroversion, but was easily replaced and a Hodge pessary was inserted. There was little evidence of previous birth trauma. The Wassermann reaction was negative and a catheterized urine specimen was negative. Her blood picture was that of a moderate secondary anemia.

She was placed upon a special hygienic regime and was observed weekly for the next five weeks. The uterus remained in good position after wearing the pessary two weeks. A dental consultant reported that there was no evidence of focal infection. In spite of the foregoing observations, her progress was very slow. Life was felt at four months (June 20, 1931). During one of the dizzy spells at the end of the fifth month, she fell down a flight of stairs. The only apparent result was a nervous upset and subsequently a crop of herpes developed around her mouth. When she reached approximately seven and one-half months' gestation, her ab-

FIG. I

Roentgenograph shows fetal structure almost completely filling the uterine cavity and the head well in the pelvis. Spatial relations of the fetal parts suggest a buoying-up force which later was disclosed to be the enlarged fetal abdomen.

domen suddenly began to enlarge rapidly, which made her very uncomfortable. On examination, the urine was negative; the blood pressure was 116 systolic and 66 diastolic; the pulse was 80; she weighed 126 lbs.; and the position of the foetus was left occiput posterior and the foetal heart rate was 142.

At this time, the following possibilities were considered: multiple pregnancy, hydramnios, foetal monstrosity, and incorrect estimation of the date of confinement. Careful palpation did not substantiate the first two possibilities. An *x*-ray picture (Fig. 1) was erroneously considered as evidence of an error in calculation of the date of confinement, the roentgenologist reporting that "negatives of the abdominal and pelvic cavities showed a single foetal skeleton in the R.O.A. position, apparently full term." Within the next week the patient developed considerable edema of the ankles and feet, her blood pressure rose to 160 systolic, 100 diastolic, and she developed albuminuria.

She entered St. Luke's Hospital October 22, 1931, at the end of eight months' gestation for induction of labor. Marked improvement followed the intravenous administration of glucose, and magnesium sulphate by mouth. An electrocardiographic tracing was taken October 20, 1931 (Fig. 2), and the cardiologist reported that there was no evidence of intrinsic cardiac pathology and stated that the lowered voltage and heart rate of 100 in this type of tracing was often seen in patients with toxic conditions. Castor oil and five grains of quinine successfully induced labor, and after five hours, spontaneous rupture of the membrane occurred. The foetal heart tones were counted every quarter hour. At the time that the caput was spreading the labiae, the foetal heart tones were suddenly lost. Perineotomy was done and delivery attempted. The foetal edema, previously unsuspected, was of such proportions that dismemberment of the foetus was seriously considered, since the patient's normal multiparous pelvis did not seem large enough for delivery of the rigid shoulders and huge abdomen of the foetus. Lack of ability to secure flexion of the neck and torsion of the body

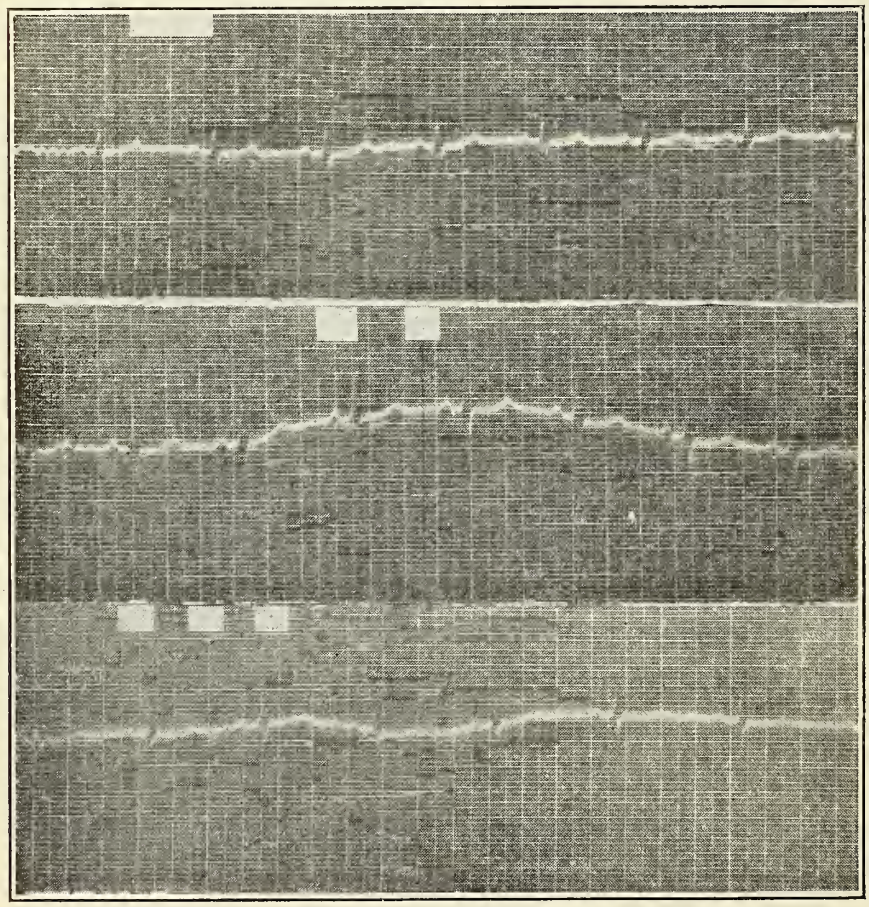

FIG. II

was the obstacle encountered. The foetal edema was generalized, stretching the whole skin to glistening tightness. The skin was marble-like in appearance and pitted only with hard pressure. The head, neck and trunk had almost a cartridge shape and could be handled in the pelvic curves with about as much ease as a "French 75" shell.

Necropsy—The subject was a male infant weighing 3170 gm. The most striking feature on external inspection was a very marked, solid, indurated type of universal anasarca involving the skin and subcutaneous tissue of the whole body. The head and face were extremely deformed by the extensive edema and the eyes and external auditory canals were so swollen as to be almost obscured by the subcutaneous accumulation of fluid. The lips, neck and chest were all similarly swollen and the abdomen was rigid and greatly distended. The penis and scrotum were likewise quite edematous and showed a purplish discoloration. On cutting through the chest and belly walls, a large amount of free fluid ran out from the waterlogged tissue and when the peritoneal cavity was opened fluid of a dark yellow serous character literally spurted forth. There were about 500 c.c. of this fluid present in the abdominal cavity. The mesentery and retroperitoneal tissues were glassy and water-logged. The liver was enlarged and the spleen was about three times its normal size. The other viscera presented nothing noteworthy on gross inspection. The pleural and pericardial sacs contained considerable serous fluid; otherwise, the chest organs showed nothing of particular importance.

The histologic sections revealed many foci of hemapoesis throughout the liver (Fig. 3) and myeloid cells in large numbers were seen in clusters and scattered diffusely throughout the sinusoids. Scattered myeloid cells were also seen in the myocardium. In the spleen, hemapoesis was found and small focal accumulations of myeloid cells were observed in the adrenal gland and in the kidney stroma. No further histologic findings of importance were encountered.

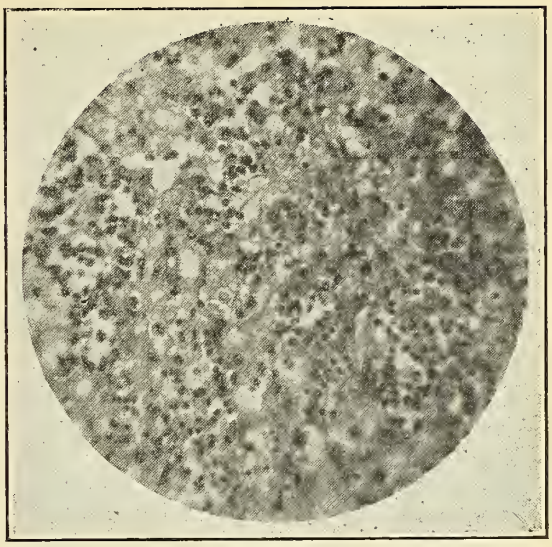

FIG. III
High power photomicrograph of liver showing extensive hemapoesis with many clusters of myeloid cells.

Progress—The mother's convalescence was complicated by a moderately febrile pyelitis beginning on the eighth postpartum day. Follow-up examinations at four, six and twelve weeks revealed a tendency to recurrence of uterine retroversion requiring a pessary for correction, and an occasional extra cardiac systole was found which disappeared on exercise. An electro-cardiographic tracing (Fig. 4) was taken January 18, 1932, and the cardiologist reported "a rate of 80 (first lead) with marked increase in voltage over the previous tracing (Fig. 2), also a sinus arhythmia. The orthodiagram was normal. The index was 43." He also observed that "The patient complained of palpitation, but showed no evidence of cardiac pathology."

DISCUSSION

We encountered varying degrees of universal anasarca in the newborn infants in the three cases which we observed but the case reported here showed the most striking degree of edema. The etiology of this condition is very obscure, but in general the cases fall into two main classes: those of apparent mechanical origin, and the cryptogenic or the type of unknown origin. In the first class, malformations of the heart, kidneys and intestines, also tumors pressing on large vessels, cord pressures, and

syphilis have all been described. In the idiopathic or cryptogenic group, many explanations have been advanced, foremost among which has been that of the frequent co-relationship with maternal toxemia, which condition was present in all three of our cases. The maternal toxemia was thought to affect the infant in some way, either by means of a nutritive or circulatory disturbance. One interesting feature in many of the reported instances has been the anemia of the foetus with an excessive formation of erythroblastic tissue. Koegel[3] felt that there was some toxic substance in the circulation which injured the blood vessel walls, causing edema and at the same time stimulating erythropoesis, while Hoeck[4] believed that the disease was primarily in the placenta, and a "defective capillary system" was hypothesized by Schmidt and Moench.[5] Hueper[6] thought that the existence of maternal renal disease was not a factor since universal hydrops was found in its absence and Oberndorfer[7] saw a general anasarca in one of twins, which remarkable finding he considered eliminated a maternal etiology.

In our case, active hemapoesis was seen in the liver and foci of myeloid cells were found in heart, spleen, kidney and adrenal glands, all of which suggested an active hemapoetic hyperplasia and the possibility of some anemia although at the necropsy the foetal blood presented nothing to suggest a high-grade anemia such as has been reported in many instances.

Just what the relationship is between active hemapoesis of the parenchymatous organs and the generalized anasarca, we are not prepared to say. However, there is a suggestion that there might be some correlation between the foetal anasarca and the maternal toxemia since, in all instances, the maternal toxemic symptoms vanished immediately after delivery of the hydropic foetus. The absence of any obvious anemia in our cases also leads us to disregard the theory that anemia was responsible for either the universal edema of the foetus or the hemapoesis found in the visceral organs.

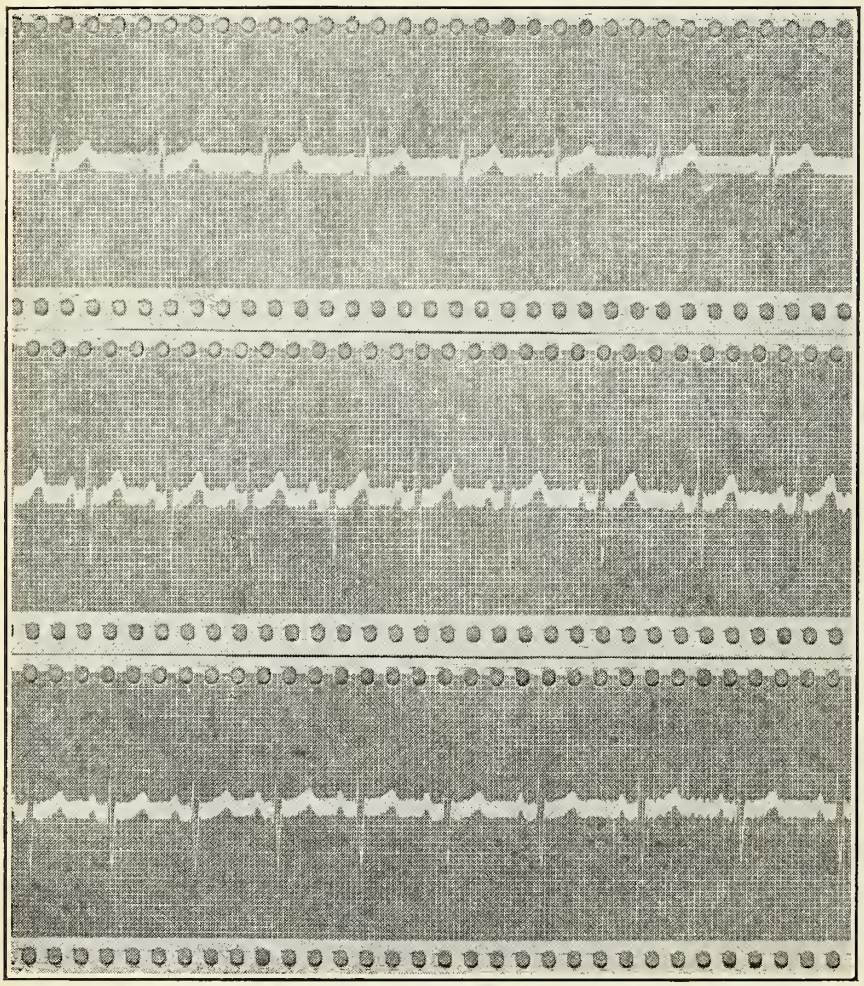

FIG. IV

Hueper,[6] who has reviewed the foreign literature, mentions some important findings relative to reported cases; namely, the mothers are usually multiparae with or without a history of previous miscarriages. In the majority of cases, a kidney toxemia was present for the first time, which disappeared after delivery without leaving any symptoms. The babies were born usually from the sixth to the eighth month, often with a pulsating heart whose action ceased on ligation of the cord. The placenta and cord were usually large and edematous.

DIAGNOSIS

If the following findings had been properly evaluated, an ante-partum diagnosis might have been made in our case:

1. The presence of toxemia for the first time in a multipara.
2. Sudden and marked enlargement of the uterus late in pregnancy.
3. Palpable evidence that the size of the foetus was greater than the estimated gestation with the absence of other abnormalities.
4. Ease of palpating the foetal parts and hearing the foetal heart which would tend to exclude hydramnios.
5. *x*-Ray findings that the size of the foetus was greater than the estimated gestation with the absence of other abnormalities.

SUMMARY

1. In a series of 2,797 births, generalized foetal anasarca was observed in three instances, an incidence of approximately one in one thousand deliveries.
2. One case is reported where a striking degree of foetal edema was present which caused difficulties in the delivery.
3. The possibilites of ante-partum diagnosis are discussed and the etiology of universal foetal hydrops is touched upon.

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THE CORRECTION OF VESICAL NECK OBSTRUCTIONS BY MEANS OF THE RESECTOSCOPE

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Mortality statistics in prostatectomy seem somewhat confused. Series of cases without a death have been published. Certain writers separate the charity cases from the private cases and no private patient ever dies. Honestly reported series seem to indicate that the average operative mortality in competent hands varies from 5 to 10 per cent. The average of mortality taken the country over, of all who attempt prostatectomy, is somewhere between 25 to 30 per cent, or one in four subjected to this operation dies. This unsatisfactory situation has caused many of the most progressive men in our specialty to turn to a revival of the partial prostatectomy by the trans-urethral method by means of a cystoscope-like instrument.

The instruments of the nineteenth and early twentieth centuries were inadequate to cope with the problem. The later instruments of the twentieth century have, we believe, solved the problem. As long as the obstruction was attacked with punch instruments we were in the same position as McGill and others who did a suprapubic partial prostatectomy. The only portion of the gland, thus removed, was that which protruded into the bladder and that was not always the obstructing portion.

At the turn of the century, Alessandra Tesla invented a coil that by induction developed a high frequency electrical current which stepped up the ordinary electrical current fed into it to the dizzy heights of hundreds of thousands of volts and a million or more alternations per second. From this discovery of Tesla's came the wireless telegraph, the radio and all the host of diathermy machines, and then last of all a variation of this high frequency current that had the property of tissues severance in a bloodless manner.

About 1924 when the research staff of the Westinghouse Electrical Company

was experimenting with this current, using it on an auto condensation apparatus, one of the workers before turning the machine off attempted to get off the table. He placed his hand on a screw and felt a stinging cut on his hand. When he looked at his hand he found that he had a deeply cut wound which did not bleed very much. He examined the screw which his hand had touched and found that there was not enough cutting properties on the screw itself to have caused the cut. This led to a lot of research as to the number of alternations per second that this particular machine was making. It was believed that the high frequency current had produced the cut. It was a simple matter then to experiment on meat and to find that this cutting property of the current could be reproduced at will, providing the alternations per second were in the neighborhood of 800,000. Above this point or below this point the current would not cut so well. Just how this high frequency current performs tissue severance is not clear but one explanation is that the cells which make up the tissue are so jostled by the bombardment set up by the current that they explode, thus making way for the loop as it is pulled through the tissues. Another theory is that tissue severance is accomplished by a sort of harmonic vibration. The idea being that the tissue cells have a certain rate of vibration and when this is matched by the vibrations from the cutting loop the cells disintegrate and explode, permitting the loop to pass through the tissue. It was found that this current would cut perfectly well while in the air but when an attempt was made to make it cut under water another problem was encountered. This had to be solved before any such work as we are attempting now could be done.

In 1925 Maximilian Stern of New York devised an instrument which was known as the resectoscope and its principle was the removal of the obstructing portion of the prostate bit by bit by means of a loop which could be worked backward and forward in a window or fenestra of a cystoscope-like instrument. This wire loop was activated by a high frequency electrical current and pieces of prostate were resected in this manner. This instrument would cut under water and the procedure was made practically a bloodless operation. Stern read a paper before the New York Urological Society early in 1926 and in April, 1926, read a paper before the American Medical Association at Dallas, Texas. At that time he reported forty-six cases which he had done in six months' time. He stated in his paper at that time that a review with the cystoscope of these forty-six cases showed a remarkable result in the correction of the obstructions of the bladder neck. He gave a description of his instrument and the technique of the operation and also reported two cases of secondary hemorrhage. Although Stern, in his original paper, seemed to make light of hemorrhage, it undoubtedly is one of the dangerous features of this method. Stern stated that he did not believe that secondary hemorrhage would occur unless too much desiccation was done and when the sloughing occurred the hemorrhage would appear. Stern worked with his instrument for a time but the electrical machines for activating the cutting loop were faulty and he received so much criticism from his fellow urologists that he practically abandoned the procedure. T. M. Davis at Greenville, South Carolina, took up the use of the Stern resectoscope and, being a machinist and an electro-physicist of no mean ability, improved Stern's instrument and aided in the development of better electrical machines to activate the cutting loop. His work has been as much pioneer work as was Stern's. During the present year Joseph McCarthy of New York brought out a cutting loop which was designed to be used in the McCarthy pan endoscope. Many faults were discovered with this loop and it was found that there were many difficulties in the way of using a cutting loop in the manner advocated by McCarthy, namely, loose in the pan endoscope. A bakelite sheath was devised to prevent shorting and fusing of the loop when it touched the metal. Recently Mr. Rheinhold Wappler of New York has modified the instrument, using the rack and pinion that was originally de-

vised by T. M. Davis, and was placed upon the Stern resectoscope, also incorporated into the new McCarthy resectoscope, and changing the shape and size of the loop.

I was not satisfied with any of the instruments available, so set about to make my own modification. With the aid of a model maker and mechanic in Kansas City I altered the pan endoscope loop of McCarthy's as follows: 1. Made a metal sheath with a bakelite tip or end; 2, secured the cutting loop to the telescope by means of clips, so that both would move together and the loop thus become rigid; 3, devised a sliding guide so that the loop could be drawn toward the operator and into the sheath, thus cutting off segments of the tissue.

With this instrument I have successfully resected 30 cases of enlargement of the prostate and prostatic bars. For small median lobes and bars it is ideal and beautiful sections of tissue can be made under full vision and generally without bleeding. The modification of the McCarthy instrument, which I use, cuts the section from within outward and as each piece is cut it is drawn out by means of removing the lens and cutting loop from the sheath. The sections measure from about 2.5 cm. to 3.5 cm. in length by 3 to 5 mm. in thickness. Hemorrhage is one of the most troublesome features of this method. In two of my cases there has been post-operative hemorrhage which was delayed for over a week. The technique of the operation has been described in detail by Maximilian Stern and by T. M. Davis. There are variations in technique, however, that each individual operator builds up.

Just now there are perhaps a group of twenty or twenty-five urologists working on this method of correction of vesical neck obstructions to see if the operation can be placed on a sure and safe footing, so that it may be placed in the hands of the average urologist. At the present moment it holds the promise that 80 or 85 per cent of prostatic obstructions are amenable to this operation.

A consideration of the pathological anatomy of the obstructing prostate be it a bar, contracture, carcinoma, or benign type bilateral enlargement, soon convinces one that it is not necessary to remove the entire prostate to clear away the obstructing portion. Anyone who has done any large series of autopsies has seen numbers of cases where there was a marked pathological enlargement of the prostate that did not cause the patient enough inconvenience to be noted in the case history. All of us have in the course of a routine examination discovered a very much enlarged prostate that was causing no symptoms whatever. It follows that it is only a small portion of the gland that really obstructs.

A rapid development of this revolutionary method of removing the obstructing portion of the prostate has been going on rather quietly in the hands of a few urologists and has now reached a point where our results should be given to the profession for consideration and discussion. No matter who the operator nor however skillful he may have been, the average stay in the hospital for the prostatic who was the subject of a prostatectomy of whatever type has been from twenty-five to thirty-five days with a period of disability following that varied considerably but often the elderly subject was not able to resume his occupation for three or four months more. One of the great advantages in this new procedure is the saving of time in the hospital as well as shortening the convalescent period.

The preparation is done just as carefully as if we were going to do a two stage suprapubic prostatectomy and nothing is left to chance. All blood chemistry studies are done, blood pressure records kept, kidney function tests and whatever other tests and data seems necessary for the success of the operation and prompt recovery of the patient. The operation is much more difficult and time consuming from the operator's viewpoint than the better known surgical procedure. It may take only twenty minutes to completely eradicate the medium-sized median lobe but it may take an hour to two hours to resect rather completely a median lobe bilateral type prostatic enlargement. We can remove

as much as forty-five grams of tissue at one sitting. When it is remembered that the average size of the removed prostate which the pathologist reports on is about forty grams it will be seen that forty-five grams is a rather large amount of tissue. The average amount of tissue removed is about 7 to 9 grams. This is generally sufficient to obliterate the obstructing portion of the gland. At the completion of the operation all bleeding points must have been sealed by coagulation and the irrigating water returned perfectly clear or at the most possessing only a pinkish stain. A catheter is then taped in place and the patient returned to bed. If the patient is a young individual and there has been little or no residual urine and there has been no bleeding at any time during the operation, we may omit the indwelling catheter and send the patient back to bed without this as I have done on several occasions. The catheter is left in place for forty-eight hours and then a measured quantity of solution is introduced into the bladder and the catheter is removed and the patient asked to stand upon his feet and void. In most cases so far the patient has been able to void the full amount of fluid injected.

That the results so obtained are permanent is attested by the fact that T. M. Davis of Greenville, South Carolina, has done about four hundred operations to date and many of these were done as long as five years ago.

The first case I attempted was about a year ago. It occurred that if this loop of McCarthy's could be mechanically controlled it would be the key to the problem. However, little did I dream the tremendous amount of work and thought necessary to put this loop into practical use. The instrument has not yet reached its final form but as it now stands it is a very practical working tool.

The second problem was that of obtaining the proper electrical machine for developing the tissue-severing current. Much work had already been done in the field of general surgery and brain surgery. Bovie, Professor of Physics at Harvard University, at the suggestion of Harvey Cushing set to work to design a high frequency machine that would have just the right amount of tissue severance without tissue destruction by coagulation. The Bovie surgical unit which completely satisfied the demands of the brain surgeon was not entirely suitable for satisfactory under water cutting which was necesary in the resectoscope operations. T. M. Davis then went to Cincinnati and worked with G. H. Liebel and perfected a machine that is almost ideally perfect in its performance. There are several other machines on the market but they are not yet as good as the Davis-Bovie unit.

For the purpose of this discussion we may classify the cases amenable to this operation into four different classes:

1. Those with bars or contractures.
2. Those with moderately enlarged benign prostate with residual urine varying from 100 c.c. to complete retention.
3. Very large benign type enlargements.
4. Carcinoma of the prostate.

(1) For the first time we have in our hands the means to adequately correct prostatic obstructions in their early stages. Most patients who come for relief have a history of some urinary disturbance for from five to fifteen years. As long as such patients were in good general health and the nocturia amounted to two or three times and the residual urine was not more than 60 c.c. they were told to wait or that they were too late for treatment and too early for operation. The result was that the patient did wait because he thought his doctor considered him hopeless. He waited until at some midnight hour he got an acute retention. A doctor was called. He was taken to the hospital. His bladder was opened and a tube placed in it and he was on his way in the dread operation. We can now deal with these early cases and remove the obstructing portions of the gland when they are yet small and the patient is in good physical condition. The obstruction removed, the gland shrinks down and in all probability a permanent cure results. This is easily the greatest advance in the treatment of prostatic obstruction since the announce-

ment by Freyer in 1901, that the gland could be surgically removed.

(2) In the cases of the moderately enlarged prostate of the bilateral median lobed type with residual urine varying from 100 c.c. to complete retention the resectoscope operation ought certainly to be tried first. It is in this class of cases that the most brilliant results have been obtained. The younger men, that is, those from 50 to 65, usually have employment and are very anxious not to lose much time. The old men, that is, those past 70, may have no business or occupation and time may not mean so very much. On the other hand, the less surgery one can do on one of the frail, old men the better, for they will not stand much operating. To do a resectoscope operation even though it cannot all be accomplished in one operation is preferable to the open operation and the results are just as good as the surgical removal of the gland.

(3) In the case of the very large benign type one would think that here is a case where the resectoscope would be of very little use. However, one cannot tell for sure until one has tried. I have successfully resected cases where it seemed about impossible to get the scope over the enlarged middle lobe. Frequently a prostate that will weigh over 100 grams is amenable to this resectoscope operation.

(4) In the carcinoma of the obstructing type the resectoscope offers the best of the palliative measures. In carcinoma of the prostate either one of two conditions predominate. The first may be obstruction to the urinary outflow with the malignant character of the gland secondary. In these cases it is necessary to first relieve the obstruction. Every surgeon of experience knows that such a prostate cannot be surgically removed and if such an attempt be made, the operative mortality is very high. The resectoscope, therefore, offers the best means of opening this obstruction. The correction of the obstruction having been done, one can then implant radium needles about the prostate doing this through the perineum and completely irradiating the malignant gland with a minimum of danger to the patient. There should be no excuse for any other type of surgery on a malignant prostate. The diagnosis of carcinoma of the prostate is generally easy; if there should be any doubt it is no longer necessary to open the patient's bladder to remove a section for this can be done by means of the resectoscope in a safe manner and the diagnosis established by the pathologist.

A study of my 30 cases is as follows:

There was one death due to a delayed hemorrhage which occurred ten days following the operation. The mortality rate, therefore, thus far is 3.3 per cent which compares favorably with the best selected series of reported cases with open surgical operations. When it is remembered that in this series five were carcinomas, the mortality rate is exceedingly low.

Two were under 50 years of age. Eight were between 50 and 60. Eight were between 60 and 70. Eleven were between 70 and 80. One was over eighty.

The average stay in the hospital was 14 days and this includes the charity cases as well as private cases. The average stay in the hospital following the operation was six days.

In four cases it was necessary to do a second operation to obtain a satisfactory functional result and rid the patient of residual urine. Three had dribbling following the removal of the catheter for from one to four days but recovered control completely.

In one case after two resections taking out a total of over 20 grams of tissue the patient was still unable to void and a prostatectomy had to be done.

In only one case was there an epididymitis and that came three weeks after the patient had left the hospital.

In only two cases was a vas section done.

In some cases the urine remained infected for a long time but all of them cleared up after several weeks.

One of the striking features of this operation is the remarkable absence of pain or discomfort following the operation. The patient may complain bitterly

of the discomfort of the indwelling catheter before the operation but all of them say they feel perfectly comfortable afterward. In three cases I omitted placing an indwelling catheter following the operation. These patients complained of no pain upon voiding even a few hours following the operation.

Time does not permit a more detailed study of my series of cases and I am reciting these notes for your consideration and discussion.

It is my opinion in view of my experience with these 30 cases that a notable advance has been made in the treatment of vesical neck obstructions.

THE INTERPRETATION OF SOME COMMON NEUROLOGICAL TESTS —THE REFLEXES

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One who approaches a patient for the purpose of examining into the state of his nervous system should have some kind of a plan in his mind which will carry him in a systematic manner through the most important tests so that at the end of his examination he will be sure to have missed nothing of first rate importance.

One of these schemes of examination, although possibly not the best one, is that in which first the various cranial nerves are gone over, then sensation, then the motor system, and finally the reflexes. In going over a patient in this way one cannot help asking himself what this or that abnormal finding may mean. Suppose that the patient has a nystagmus. Does this mean necessarily that he has a cerebellar disturbance? If we find an inability to distinguish heat and cold does this establish a diagnosis of syringomyelia? Is intention tremor ever found excepting in multiple sclerosis? Does absence of the knee jerks always mean tabes? These and similar questions are apt to arise in our minds as we conduct a neurological examination and our diagnosis of course depends upon the answers we give to them.

Without any doubt one of the most important divisions of any neurological examination is that which deals with the reflexes, and if one has to be content with anything less than a complete examination for any reason, he had better be sure to at least go carefully over the various reflexes. This examination can easily be considered to be the most important of all because it can be carried out on an unconscious patient or a young child, where cooperation of the patient cannot be obtained, it is objective, and the facts brought cannot be the result of simulation. Therefore, examination of the reflexes helps us to decide whether symptoms are real or feigned. The decision whether disease is organic or functional is materially helped by consideration of the reflexes and furthermore they often tell us whether a lesion is central or peripheral.

For these reasons I have decided to discuss some of the reflexes although I shall not confine myself to them exclusively.

Any one of the firmly established important clinical neurological tests can furnish us with a piece of objective evidence which if properly evaluated can throw light on the location and nature of a lesion in the nervous system. In order to properly interpret such a finding as absence of the knee jerks it is necessary to correlate it with the symptoms and other relevant findings, as it may have little importance as an evidence of disease when standing alone. When it is remembered that a peripheral neuritis can result in the loss of deep tendon jerks long after the active evidences of its presence have disappeared, it can be seen that dependence on isolated findings may lead to erroneous conclusions.

I should like to direct attention here to one of the cardinal principles of neurology, namely that symptoms depend more on the location of a lesion and on the nature of the mechanisms deranged than on the nature of the pathological process which is responsible. It is this principle which explains why we find a Babinski sign in disease of the pyramidal tract whether the cause of the damage be hemorrhage, a brain tumor,

or an injury to the spinal cord. Our localization of a lesion throws light on the pathology because we know that certain pathological processes tend to attack certain anatomical structures, but first and foremost in the examination of a case we are trying to localize lesions, then tell what they are pathologically.

Outstanding in its importance as a neurological sign is the so-called Argyll-Robertson pupil. Argyll-Robertson described in 1868 the case of a carver aged 59, who complained of dimness of vision, weakness, cramps and numbness in the legs, unsteadiness of gait, inability to retain urine and inability to stand with the eyes closed or in the dark. His pupils were small, and did not contract to light, although they contracted when the patient looked at a near object. The next year he published a short paper in which he described four cases. As originally described, the A-R pupil was small, vision was good, the pupil did not react to light and did not alter in size with change in illumination, but the reaction when the patient looked at a near object was "prompt and full." Strangely enough there is some doubt or rather some difference of opinion as to what actually constitutes an Argyll-Robertson pupil, but the most authoritative present day opinion holds that the essential features are absence of the direct reflex to light, with presence of the pupillary reaction on convergence-accommodation. Myosis is considered to be incidental.

As originally described, the sign was certain evidence of syphilis, but simple absence of the light reflex with preservation of the reflex to convergence-accommodation is sometimes found in other conditions. The A-R pupil is a localizing sign which points to a lesion in the mid-brain in the region of the anterior corpora quadrigemina or aqueduct. In the opinion of Kinnier Wilson the lesion is located between the anterior colliculus and the nucleus of the third cranial nerve, in the region of the aqueduct.

In most instances the A-R pupil is of course due to lues, but undoubted cases have been reported with encephalitis, with tumors of the mid-brain, trauma, alcoholism, multiple sclerosis, and diabetes. Therefore the discovery of this sign in a patient is not absolute proof of the existence of syphilitic infection. Nevertheless, in most cases it can be accepted as pointing strongly toward syphilitic infection since the number of cases due to other causes is small in comparison. The finding of this sign in a patient who has no symptoms, whose blood Wassermann is negative, and who shows no other evidence of nervous disease should occasion no alarm, since the sign may remain as a scar long after any activity of the luetic process has ceased. The presence of this sign together with lightning pains and absence of the knee jerks points straight toward a diagnosis of tabes dorsalis, whatever the serology may be. The finding of this sign together with headache, vomiting, choked disc, etc., should suggest a tumor in the mid-brain. Thus the significance of an Argyll-Robertson pupil depends to a large extent upon its correlation with other symptoms and signs, and its isolated appearance justifies neither a diagnosis nor a prognosis.

The abdominal reflexes are intimately connected with the cortico-spinal system or pyramidal tract. Their peripheral pathway leads through the lower thoracic region, and destruction of the lower thoracic segments of the cord of course abolishes them. For many years it was known that in cases of hemiplegia the abdominals were absent on the affected side. Only after Miller and Strumpell directed attention in 1905 to the early loss of these reflexes in multiple sclerosis, did they come to occupy an important place in neurological diagnosis. In connection with other symptoms and signs the bilateral loss of the abdominals is suggestive of the presence of multiple sclerosis, although by no means conclusive proof. There are apparently individuals who have no abdominal reflexes yet who are normal in every other respect. In a patient who is unconscious from a sudden stroke, the absence of the abdominal reflexes on one side may be the only sign of a focal lesion in the opposite cerebral hemisphere, and may

point toward cerebral hemorrhage rather than to some toxic condition.

The knee jerk is mediated through the third and fourth lumbar segments of the spinal cord, and any lesion whatever its nature, which interrupts these segments will abolish it. It was pointed out by Westphal in 1875 that loss of the knee jerk was one of the earliest and most constant signs of tabes, often occurring years before the onset of the ataxia. While loss of the knee jerks indicates the probable presence of organic nervous disease, there are unquestionably rare individuals in whom this reflex is congenitally absent. There are also many conditions other than tabes which cause loss of the knee jerks. For example injury to the femoral nerve, neuritis, diabetes, poliomyelitis, syringomyelia, or a previous attack of diphtheria may all cause loss of the knee jerks. Consequently while their absence is strong presumptive evidence of tabes, if other signs were lacking, and there were no symptoms of nervous disease other than this, one might have to conclude that even the failure to elicit knee jerks meant little or nothing. The conclusion that the knee jerks are absent should never be reached without first trying the effect of reinforcement.

One of the most valuable of all our tests is the toe sign or "extensor response" of Babinski. This consists of a slow upward movement of the great toe with a fanning of the other toes when the sole of the foot is stroked with some hard object such as the thumb nail, the head of a pin, a key, etc. This sign was first described by Babinski of Paris in 1896. The sign is normally present in young infants. If obtained after infancy this sign indicates depression in function of the pyramidal tracts. Since experience has shown that this phenomenon is never produced by disorders such as hysteria or neurasthenia, and that something more than so-called "functional disorder" must exist to account for it, it constitutes an extremely valuable addition to the neurologist's armamentarium. Before this sign was brought forward by Babinski sometimes weeks of observation were necessary to determine whether a case of paralysis was hysterical or of organic origin. The extensor response is of great value in the early diagnosis of multiple sclerosis in those cases where the patient complains of transient symptoms which suggest hysteria. The extensor response may be obtained with a lesion in the pyramidal tract anywhere from its origin in the Rolandic area of the cortex to its termination in the lower sacral segments of the cord. The Babinski is a sure sign that there is an organic disturbance involving the motor system, and that it is located in the upper motor neurone.

The question is sometimes asked whether there is any test comparable to the Babinski sign which may be applied to the upper extremity. There are several tests which are of some value in distinguishing between organic and functional disease in the upper extremity. If the examiner holds the patient's hand with the palm upward, then flexes the fingers on the palm and the hand on the wrist, rolling them up so to speak, an involuntary flexion of the elbow takes place. This is Leri's forearm sign and is normally present. It is abolished by organic disease involving the pyramidal tract but not by hysteria. If one grasps the patient's wrist firmly with one hand and with the thumb of the other hand forcibly flexes the proximal or first phalanx of the middle finger the thumb becomes slightly flexed and opposed at the carpo-metacarpal joint. At the same time the distal phalanx is extended. This is Mayer's finger-thumb reflex. It is normally present but may be abolished by lesions of the pyramidal tract. One elicits the so-called Hoffman sign by flicking the finger nail of the patient's index or middle finger. This produces a sudden quick flexion of the other fingers and thumb in cases of pyramidal tract disease. It may also be present in cases with increased muscular tone in association with disturbances which are functional rather than organic and consequently by itself is not an absolutely reliable sign. In association with the others, however, it may furnish information of value.

In 1927 Wartenberg described a pyra-

midal tract sign consisting of flexion, adduction, and opposition of the thumb when the four fingers of the patient are made to flex against resistance. This can be done either by having the patient hook his fingers over a bar or by having him flex them against the fingers of the examiner. This sign is frequently found in disease of the pyramidal tract. These signs in the hand, while not so conclusive as Babinski's sign in the foot are nevertheless of considerable value in deciding whether a condition is due to pyramidal disease or not.

Leaving the subject of the reflexes, I wish to mention an important sign of spinal cord disease which is usually associated with tabes dorsalis. This was first described in 1840 by Romberg, and still bears his name. Romberg's sign is another example of the fact that neurological signs depend less on the nature of the pathology than on the anatomical site of the lesion. It consists, as is well known, in the swaying and tendency to fall which is observed when a patient is caused to stand with the feet together and the eyes shut. This sign depends upon the failure of the posterior column of the spinal cord to conduct impulses of deep sensibility upward, and can be called forth by any pathological process which affects this anatomical structure so as to interfere with its function. For instance we find Rombergism in a very marked form in the cord changes which accompany pernicious anemia.

Some of the more common neurological tests have been briefly reviewed and their significance discussed. It must not be forgotten that the patient's contribution to the diagnosis by giving his history and by replying to the questions of his physician is of the utmost importance. However, in certain instances the extreme youth of the patient or his helplessness from disease or injury may prevent his making this contribution. Again we may be dealing with a very stupid patient, with one who is confused mentally, or with one whose power of self-expression is extremely limited. In such cases reliance must be placed almost entirely in objective signs, and here the reflexes are of surpassing importance.

UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

The Effect of Morphine on the Intestine

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The general concept among medical men today is that morphine quiets the bowel and puts it at rest, and it is usually given with this aim in mind. However, in a review of some thirty articles by physiologists and pharmacologists dealing with this subject, we find most workers are agreed that the action of morphine on the intestine, as shown experimentally, is not to decrease the movements of the intestine but rather to augment them. Work has been done on many different types of animals and on man, and has included studies on isolated segments of gut, observation of the opened abdomen in a saline bath, the use of intestinal fistulas and loops, and *x*-ray studies with barium. Plant and Miller[1] have studied the effect of morphine quite thoroughly on dogs with Thiry-Vella loops, and have come to the conclusion that the effect of morphine is to increase the muscular tone, the frequency and amplitude of peristaltic waves and the amplitude of segmentation movements. They conclude also that in man, by observing the movements within a large scrotal hernia, that the tone of the intestine and the frequency of contractions were increased.

Our own experiments have been done on unanesthetized dogs with Thiry-Vella loops from the upper jejunum, and our findings of the effect of morphine on the intestine are in accord with those of Plant and Miller, viz., an increase in tone, an increase in amplitude of segmentation movements and increase in the rate and amplitude of peristaltic waves. Very small doses were found to stimulate the gut, even in doses of .1 milligram per kilogram, (1/80 grain for the average dog), while large doses of 5.0 milligrams per kilogram (¾ grain for the average dog) stopped peristalsis and produced

some decrease in tone, although segmentation movements were little affected. The duration of the effect of morphine was about 12 hours. However, Plant and Miller say that the effect may sometimes last a week. This is open to question, since our own tracings have shown large variations the same day in the normal dog.

If morphine causes an increase in the movements of the intestine, we should expect that the end result would be diarrhoea. However, we are all acquainted with the scyballous stool produced with morphine. What then is the mechanism of the constipation produced by morphine? There are probably three factors involved. The first is a spasm of the sphincters of the gastrointestinal tract, mainly a spasm of the pyloric and ileocaecal valves; the second is a diminution of the secretions of the upper gastrointestinal tract, including the stomach, pancreas and intestine, and third a loss of the defecation reflex.

The effect on the sphincters has been shown by Hirsch[2] in studying duodenal fistulas in animals, and by Magnus[3] in animals and man by the use of the *x*-ray. The effect on the secretions has been studied by Cohnheim and Modrakowski[4] and Padtberg.[5] The action on the rectal sphincter has been suggested by Schapiro.[6] These studies are, however, separate studies in themselves and are only suggested as a possible explanation for the constipation.

If the action of morphine is to stimulate the intestine, how are we to explain the beneficial results arising from the use of morphine in the treatment of peritonitis and paralytic ileus? The benefits of morphine in the treatment of peritonitis have been observed by many. The use of morphine for this purpose began about 1825 before the days of surgery and the use of the opium treatment was completely described by Alonzo Clark[7] in 1882. For many years it was used in preference to surgery. Modern writers agree from their own clinical expeience that morphine is of distinct benefit in the postoperative treatment of peritonitis. Every modern textbook describes the use of morphine in the treatment of peritonitis. In each instance morphine is given with the object of putting the bowel at rest and it is so stated. Warning is given against the use of anything which would increase intestinal movements. On the other hand when distention does occur then pituitrin, pilocarpin, physostigmine, hypertonic sodium chloride and spinal anesthesia have been advocated to relieve the distention.

It appears rather logical that the object of treatment should be to maintain good tone rather than to try to get relaxation. A paralyzed gut most certainly must lead to distention. If atropine is given to an animal whose intestine has been stimulated with morphine, the tone is distinctly reduced even below normal, peristalsis is stopped and the amplitude of the segmental contractions is reduced. If the object in treating peritonitis is to put the bowel at rest, then atropine will most certainly do it, but if the object is to maintain good bowel tone and good contraction, then morphine should be the drug employed.

In the hospital, we recently had the opportunity to observe a patient with morphine poisoning. Even with respirations at 4 per minute there were good intestinal movements heard on auscultation. Intestinal movements were excellent 6 hours later when the respiration had increased to 11 per minute and the following day with the respirations at 20 per minute the intestinal movements were somewhat decreased.

SUMMARY

1. Morphine increases the tone of the jejunum, the amplitude and frequency of peristalsis, and the amplitude of segmentation movements as shown experimentally on the dog.

2. A hospital case of morphine poisoning is reported in which good intestinal movements could be heard on auscultation.

3. It is suggested that the beneficial effects of morphine in the treatment of peritonitis, as known clinically, is probably due to the maintenance of good bowel tone and good contractions which

aids in the prevention of paralytic ileus or which may effect its early cure.

4. It is doubtful if atropine sulphate in combination with morphine should be used in the treatment of peritonitis, paralytic ileus or intestinal obstruction, since it tends to decrease the tone of the bowel.

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NATIONAL TUBERCULOSIS MEETING

The 28th annual meeting of the National Tuberculosis Association will be held at Hotel Antlers, Colorado Springs, Colo., June 6, 7, 8 and 9, 1932.

Colorado Springs and Pike's Peak, famous goal of the Fifty-Niners, will be the scene of the twenty-eighth annual meeting of the National Tuberculosis Association. Tremendous reductions in railroad and hotel rates, affording unparalleled opportunities for sightseeing, are an added incentive to attend. You will want the privilege of being present at the dinner that will commemorate the Fiftieth Anniversary of Koch's epochal announcement—the discovery of the tubercle bacillus.

THE PROGRAM

Pathological Section—Dr. David T. Smith, Durham, N. C., Chairman.

Clinical Section—Dr. James J. Waring, Denver, Colo., Chairman.

Sociological Section—Dr. J. L. Pomeroy, Los Angeles, Cal., Chairman.

Administrative Section—Mr. H. M. Cass, Huron, S. D., Chairman.

SOME SPECIAL FEATURES

A special symposium: "Technique of Blood-Cell Count in Diagnosis."

The best *x*-ray exhibit ever held: More space. Better films. Demonstration of how to make cell count.

Discussions: Racial Aspects of the Tuberculosis Problem. The Child's Bill of Rights in Relation to Tuberculosis. By-Products of Tuberculosis Programs.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of The Kansas Tuberculosis and Health Association

What Is New in Tuberculosis

As Seen by a Canadian Physician

TUBERCLE BACILLI UNDER THE MICROSCOPE

The strategy of our campaign against tuberculosis is new. Our old objective was to heal the sick man who came to the doctor of his own accord because he was sick. He seldom came early because he had few symptoms or none. Our new objective is to find the men, the women, and especially the children who have been in contact with the sick man. Management of the individual case is not enough; we now ask: "Who have been *seeded* by this man's infection, and what can we do for *them?*"

The kinds of people we have to diagnose are new. When the doctor goes scouting among contacts he finds that all his decisions are more difficult. He finds also that "the fountain pen is mightier than the stethoscope" because the history of tuberculosis in the family is so important. Probe deeply with your pen; nor be satisfied until you have all the family chest portraits in your *x*-ray album. Grandmother's "stomach cough," when the *x*-ray has passed upon it, may explain the indefinite illnesses of half a dozen grandchildren.

NEW IN DIAGNOSIS

A revolutionary change in diagnosis is the comparative eclipse of the stethoscope by the *x*-ray plate. The stethoscope is still useful but not an instrument of precision. It leaves half of our chest problems untouched. It can but rarely find early tuberculosis and probably never earliest tuberculosis. It cannot follow at all accurately the progress of disease or of healing. Nearly all the questions we need to ask are answered more clearly by the *x*-ray plate. Of course the *x*-ray plate must be well made and well read lest

blind leaders lead the blind into diagnostic ditches.

Opaque oil, such as lipiodol, is a wonderful help in differentiating from tuberculosis a condition which is considered rare but which is really common, namely, bronchiectasis. This new diagnostic measure has had its full share of misuse and misinterpretation.

The bronchoscope is coming more into use as a chest instrument but has still a broad field to cultivate.

Examination of the sputum is as essential as ever. But now we are not satisfied with a single or a dozen negative findings, for that settles nothing. Now we incubate and grow the germs on potato medium.

The tuberculin test is perennially new, and it is more prognostic than diagnostic. A tuberculin reaction in an adult is something like a vaccination scar. When a young child reacts to tuberculin he should be thoroughly examined and closely watched, and his whole household examined too.

NEW IN TREATMENT

"Outdoorness" is not a specific for tuberculosis but a natural advantage which all living people should have, especially the chronically sick. Sunlight treatment is still empirical but useful as a general tonic. He who would use it safely must know its indications and contraindications, its therapeutics, dosage and toxology. Light has been over-praised and abused. It should be applied in measured doses, in well selected cases and always watchfully.

Rest is still the great basis of all treatment of tuberculosis. Fatigue makes ill; rest makes well. Tuberculosis can be cured, but the prices to pay are time and patience, and the foundation is rest. But at last pulmonary tuberculosis has found a "specific." It is collapse or compression of the diseased lung or lungs, which is simply a local application of rest. Artificial pneumothorax is not new but the widening of its scope is. Phrenic paralysis to raise the diaphragm and thoracoplasty to collapse the chest wall are new and their scope widens daily. Artificial pneumothorax is being applied earlier and earlier and later and later. Using it in early stages is not using a sledge hammer to drive a tack, because pneumothorax is not a sledge hammer and any definite focus of tuberculosis is not a tack. Pneumothorax has no features that can be called bad, except the formation of fluid in some cases. The best indication is the lack of contraindications and there are no contraindications. Hemorrhages or expectoration with bacilli or beginning cavitation—even a small cavity—urge pneumothorax.

In late, neglected, or advancing disease the prognosis goes up many points when collapse is possible for the worse lung, and is improved even more proportionally when both of two bad lungs can be collapsed. We now freely apply some collapse to both lungs and even put men with double collapse to work. The more passive measures called *taking the cure* must now be supplemented by active measures of *giving the cure.* "Milk, eggs, and the back verandah" never was a reasonable formula and now is hopelessly obsolete.

NEW ABOUT COMPLICATIONS

We believe now that tuberculosis in the intestine is almost as treatable and curable as tuberculosis in the lung—if we make the diagnosis and apply the treatment soon enough. Early diagnosis of tuberculous enteritis can be made only by the *x*-ray. The author gives barium meals as a routine in all cases of pulmonary tuberculosis. Treatment is begun early and the old picture is seldom seen except in a patient neglected to sheer hopelessness before treatment is begun. Treatment includes a smooth diet, light therapy, and all general measures made more intensive.

The larynx is the doorstep of the lung. Good treatment for the lung is the best element in treatment of the larynx. Collapse treatment has done much to reduce tuberculosis in the larynx from a major complication almost to a minor one. Add to that rest, silence, and sun applied carefully.

The red terror of hemorrhage is tamed. Half the pharmacopeia has been tried and has failed or done harm. The worst modern mistreatment of hemoptysis is morphine, though a little heroin to *modify* (not stop) cough is valuable. Ice

bags on the chest are of the devil. The modern treatment for hemorrhage is rest, reassurance, a little heroin, mild laxatives, bland foods—and the *specific*. That specific is collapse therapy.

NEW LIGHT ON CHILDREN

Most important of all is the new light on tuberculosis in children. Our ideas about children lagged a generation behind our knowledge about adults, chiefly because we had a single standard for measuring disease in the adult and the child. But the two types are almost two diseases, so different that they have little more than the causal organism in common. Diagnosis, treatment, and prognosis all differ as between the young and the older. Symptoms in the childhood type are absent or slight and no single symptom is pathognomonic. The physical examination cannot disclose it. But the great *new light* is shed by the *x*-ray.

"The discovery of the child in tuberculosis opens up a great new continent for exploration. It is in this new continent of childhood that the most fruitful exploration of the anti-tuberculosis forces will be made during the next generation. . . . What we wish to do for the race must be done for the child. On their behalf we must even learn a good part of our tuberculosis all over again."—"*What is New in Tuberculosis," David A. Stewart. The Canadian Med. Assn. Jour., January,* 1932.

CLINIC TOUR PRICES REDUCED!

Recent drastic reductions in steamship rates will make even more attractive the already low prices of our Co-operative Clinic Tours this year. The prices allowing Tourist Class on the ocean have been reduced by $47.50 and those providing first class on the ocean have been reduced by $130.

Unquestionably these rates—especially those for first class—are too good to last. It is our opinion that it will be impossible, with the high grade of service maintained by the North German Lloyd, especially on these two supreme ships, to continue on the basis of the present prices and there are already rumors of a revision upward in the near future.

In the meantime, however, our tours may be bought at the current bargain rates. The wise ones know that these days of the great "repression" constitute an unprecedented opportunity to travel at minimum cost. Collections are bad anyhow—Why not take advantage of the present situation and go with us this summer?

THE PRODIGAL

Verility, when properly controled, favors longevity.

Splinting the bowel with opium was considered good practice, within the memory of physicians yet living.

Malaria was thought to be caused by a miasma, fifty years ago. And by some authorities named swamp-gas fever.

One of the greatest stigmas on the medical profession, in the eyes of the public, is to see five or six alienists arrayed on the side of the prosecution in a case of murder, to prove that the murderer is sane and the same number of alienists arrayed on the side of the defense to prove the murderer is insane.

Contract Practice

R. G. Leland, Chicago (Journal A. M. A., March 5, 1932), believes that although there are many details of contract practice which deserve much more detailed description and comment than is possible in his report, it may be stated that contract practice (1) took its origin largely from necessity; (2) has been legalized, in certain places, by state statute; (3) under certain conditions and in some forms is both ethical and legitimate; (4) in general, has become highly commercialized and competitive; (5) is largely limited to the pay roll class; (6) does not, in most cases, extend its provisions to women and children; (7) concerns itself, almost without exception, to curative medicine and does not include preventive measures; (8) shows no interest in public or individual welfare; (9) furnishes medical care which is often inferior in character; (10) in many instances is characterized by underbidding, subletting, misrepresentation and racketeering; (11) is economically unsound in many of its present forms; (12) is essentially sickness insurance usually not supervised or regulated; (13) is often used by the operators thereof to influence legislation in favor of extension of the plan; (14) in many of its present forms lowers the confidences of both the individual and the public in the medical profession; (15) has some features that deserve refinement and extension and others that are unethical and dangerous and should be abolished.

THE JOURNAL
of the
Kansas Medical Society

EARLE G. BROWN, M.D. - - - - Editor

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EDITORIAL

For several years it has been a custom to make the May number of the Journal the "Medical School Number." Practically all of the material furnished is contributed by members of the faculty. This year they are giving us an excellent series of very interesting papers which no doubt will be read by every member of the Kansas Medical Society. The cooperation the school has given us in furnishing this material is very much appreciated.

MEDICAL EDUCATION

Medical education like all forms of education is being subjected to the closest scrutiny for evidences of extravagance and unnecessary expense. The mounting cost of educating a medical student is causing considerable concern. In some schools it costs over $1,000 to educate a student each year. With the present economic crisis, public and philanthropic agencies cannot be expected to bear this continued expense and retrenchment is imperative.

The three great sources of expense in medical education are the laboratories, the research departments and the hospitals and dispensaries. The laboratory work is most essential and cannot be curtailed. It is well recognized that only here does the student come in direct contact with the factors and conditions of health and disease.

There is some question, however, whether all the sums devoted to research should be charged to medical education. In some schools this amount is small and scarcely sufficient. In others it is undoubtedly exorbitant and even obscures the real purpose of the medical school—the education of well-rounded general practitioners. This leads to the tendency, seen in some schools, of placing men in prominent positions because of their research and investigative ability ignoring their relative lack of teaching ability and inspiration for their students. Only recently Dr. Zinsser has called atention to the overproduction of non-productive research in many medical schools with useless expenditure of large sums of money.

In the present economic crisis such waste of funds must be eliminated, but care must be taken not to discourage the spirit of research. While the attempt to make a research investigator out of each student is expensive and impractical, enough research should be encouraged in each school to give encouragement and inspiration to a few rare spirits who are by nature fundamentally thorough and inquisitive. Furthermore, each student should come in contact with sufficient research and its methods so that he can recognize the genuine investigator and his work from the pseudo-scientist and his hasty and unreliable conclusions. Moreover, an acquaintance with the methods of scientific investigation are of the greatest value to each student because a patient often presents a difficult and puzzling problem, the solution of which may require every means known to med-

ical science. The methods of solving such a diagnostic problem are often surprisingly similar to those of laboratory and clinical research.

The Kansas state medical school with its limited budget has succeeded in stimulating the research spirit without much expense and without hampering the instruction of the student. The character and amount of productive work coming from this small school has given it an enviable reputation among the schools of the country and it is hoped that nothing will be done to discourage this spirit in the school. The present financial stress affords some danger of financially crippling this phase of investigative work being done.

The other great cause of high cost of medical education is the expense incurred in providing the hospitalization of the patients for student demonstration and study. However, such patients are indigent and they would have to be provided for by the community anyway so it is manifestly unjust to charge their care to medical education. There is, moreover, a growing tendency to use full and part-pay patients in private hospitals for teaching material. The notion that private patients cannot be used by students is not based on fact. Fully 80 per cent of such patients are willing to be demonstrated to students and even examined by them if approached tactfully. The idea that only charity patients can be used is becoming obsolete.

This plan of utilizing pay patients for teaching purposes has been used to a more or less extent in the university hospital ever since its origin so that now the state pays only 20 per cent of the cost of the operation of the teaching hospital, the balance being obtained from fees from patients. Other schools are reporting increasing use of pay patients as teaching material with considerable success. Apparently, the public has more confidence in such teaching hospitals and has less fear of being experimented upon, than has been reported not many years ago. This should materially increase the clinical material available and at the same time reduce the cost of instruction of medical students.

H. R. Wahl, M.D.

MEDICINE, PAST, PRESENT AND FUTURE

The general practitioner of the past engaged essentially in emergency practice. Patients called him only when they were in pain and distress and needed immediate relief. The old time doctor gave everything he had in providing aid to his patients even when he had very erroneous ideas as to the nature of the ailment. He understood his patients and shared his sympathy freely with their mental and economical woes as with their physical discomfort and always had their fullest confidence and cooperation. He may have been entirely wrong in his diagnosis but he was primarily interested in the patient, who sensed this and considered him the "finest doctor in the country." The nature of the disease often caused him little concern except in so far as ignorance of it might interfere with his success in relieving his patient. He often contended resourcefully and hopefully with the forces of disease and yet often blindly. He gave relatively little thought to the nature and cause of the diseases he treated nor did he consider them often in relation to his community. His practice was intensely personal and individualistic. He also gave his services freely to his community and had the highest respect of his public.

The modern physician has quite a different attitude toward medical practice. He also engages in emergency work for

the most part, but he is not satisfied with simply relieving his patient but he seeks the cause of the disease and is interested in its prevention. Medical science has developed so rapidly and extensively with the rise of laboratories, diagnostic tests, *x*-rays, hospitals and specialties that the modern physician cannot be criticized if he occasionally loses his perspective and overlooks the individuality of the patient and is lost in the diagnostic maze of a puzzling disease. So much emphasis is often placed on diagnosis and prevention that the individual patient is forgotten. Hence, it seems that the modern physician is often more interested in the disease than in the patient. Unfortunately, the patient often senses this impersonal interest of his doctor, silently resents it, refuses his complete confidence, becomes critical and often skeptical of his medical adviser. The doctor rarely explains fully to this doubting patient and lack of cooperation results.

It should not be inferred that the modern physician is uninterested in his patient. This is not true but he is apt to carry the study of the nature of the disease often much farther than is needed for the patient's welfare and often at unnecessary expense. There is no question that the average modern doctor is sincerely endeavoring to relieve the patient but he does not always take the patient fully into his confidence. The modern physician cannot practice good medicine without available laboratories, *x*-rays, hospitals and nurses. He knows more what he is doing and why, than his predecessor but he is less resourceful and more dependent on these aids. Moreover, he is more expensive because the patient has to pay for all these aids. The doctor is often apt to be lost in the study of the disease and the patient becomes worried over the expense and wonders why he gets so little results with so much expense. Recent study of medical practice indicates that nine-tenths of patients have ailments that can be readily diagnosed and treated and that for these, elaborate studies and consultation with specialists are entirely unnecessary.

Not only does the modern physician often fail to get a thorough understanding with his patient but, since he knows he is conscientiously working at the cause of disease and is well acquainted with its behavior, he is apt to take the patient and the public for granted and there he makes his mistake. Medical science has made great progress in the past twenty years but a large part of the public does not know this. The average doctor of today does not even interest himself in his own organization and allows ten per cent of its members to speak for the other ninety per cent, including himself, and it is often this minority that gets the public eye and determines its reaction to the doctors as a whole.

The physician of the future will likewise engage in emergency practice but will constantly keep two other ideas in mind. One is the question of the cause and prevention of the disease and the other is the education of his patients and the public with the significance and advances of medical sciences. He will maintain a proper perspective. He will use various diagnostic procedures, hospitals, specialists, and other aids only in so far as they are needed to clarify the patient's condition and to provide him with intelligent means of treating the condition. He will seek the patient's confidence and cooperation first and then proceed with the scientific study of the disease if this is warranted. He will realize constantly that he must sell his services to his patient not only in the way of medicinal treatment but also in a

thorough and convincing lay explanation of the problem the patient's disease presents.

In other words, education and prevention are just as vital as therapy in the practice of the future doctor. This involves increasing publicity of medical advances, given to the public under the auspices of proper medical organizations. In fact, the New York Academy of Medicine has recently recognized this and has formulated a set of rules for its members to use in making use of the press, the platform and the radio in securing this publicity. Hence, the future physician will place more emphasis on the patient himself, and on the education of the public and spend less time on sterile investigation of diseases whose nature is often already apparent. With such an attitude the medical profession will be better understood and better maintain its position of respect in the community.

H. R. Wahl, M.D.

THE PHYSICIANS LIBRARY

United States Army x-ray Manual, second edition, authorized by the Surgeon-General of the Army, and re-written and edited by Lt. Col. H. C. Pillsbury, M.C., U.S.A., 12 mo., flexible leatherette, five hundred pages, two hundred twenty-eight illustrated, $5.00 net. Published by Paul B. Hoeber, Inc., 76 Fifth Ave., New York.

This very excellent Manual of the entire field of diagnostic roentgenology is a work that should be in the hands of every practicing roentgenologist. It covers in an exceptionally efficient way points to be considered in buying new equipment suitable for *x*-ray work; clearly explains elemental physics, repair and trouble work; and contains very concise and detailed accounts of technique and interpretation.

It should be of particular interest to the large number of physicians who have already, or are intending to buy, *x*-ray equipment for the occasional needs of their own practice. All too often the pleasant mannered and smooth tongued salesman sells far more equipment than the physicians may need. This work, the product of no manufacturing concern, should give anyone a clear idea of not only what to buy, but how to use and operate it after purchase. The tables of ossification and epiphyses, and of the more generally found accessory bones of the body, are alone well worth the price of the book.—A. K. O.

"Surgical Errors and Safeguards," by Max Thorek, M.D., Surgeon-in-Chief American Hospital, Chicago. Foreword by Arthur D. Bevan, M.D. Large Octavo 650 pages. 669 illustrations. J. B. Lippincott Co., Philadelphia, Pennsylvania. Price $10.00.

Surgery of today is quite well standardized in operative technique and there are numerous publications describing such in great detail. Rarely do we find an author telling us what not to do.

Dr. Thorek in this volume on "Surgical Errors and Safeguards," gives us a most valuable contribution to surgical literature. He tells us not only what not to do but how to avoid complications and technical errors and further how to act when brought face to face with abnormal circumstances arising in the various surgical operations.

The author has had a vast surgical experience and the problems with their solution presented in this volume are in a large part his own personal experience but added to these are the opinions and experiences of many of our leading surgeons.

This work further emphasizes the necessity of conservatism in surgery and the importance of good surgical judgment. He discusses preoperative and postoperative care; the causes of failure in surgery; the proper handling of the "bad risk" patient and the errors and safeguards of all important operations on the various systems of the body.

It is truly a worth while volume which every progressive surgeon should have in his library.—M. B. M.

"One of the most common causes of deafness is trouble in the middle ear," says a doctor. We are thankful we have only two.—*The Humorist* (*London*).

THE PRESIDENT'S MESSAGE

STATE MEDICINE

To Members of The Kansas Medical Society:

Are we truly familiar with this subject? In discussing the present standing of the profession I find a varied interpretation placed upon the term State Medicine. Many tell us State Medicine is at our door; others advise to have no fear as it will never come.

Some believe organizations will be forced to give up their contract Doctors and that some time a utopia of medicine will be had.

I find many confuse Industrial Medicine with State Medicine. Industrial Medicine is already with us and we must recognize it. The more hastily we recognize Industrial Medicine and give it a standing within our body, the more strongly fortified our organization will be. We drift along with a left-handed objection to Industrial Medicine and watch it grow from year to year.

Forty-four of forty-eight states now carry compensatory laws with some means of medical care therein. Some demand recompense for surgical fees in accidents only, while others demand the employer be held for expense of all illness while in their employ. Of course, the expense will ultimately revert back to the consumer who must finally pay the bill.

Some states, including our own, permit the workmen to employ the doctor of choice. This sometimes resolves itself into an unfairness to the employer. The doctor of choice may become unduly biased toward a workman whose aim is to take advantage of his employer.

Out of the employment system of this country in which the matter of compensation has entered, a system of quackery in the legal profession sprang up in what is known as the professional "snitch." The quack in medicine is an annoyance and the snitch certainly cannot be less. Hence, compensatory laws became inevitable.

Under existing state laws, it would be totally impossible to dispense with the Industrial physician, even if it were so desired.

The poorly organized plans of factories and contractors soon determined that from sixty to seventy per cent of all accidents were unnecessary. It was readily conceived it was much cheaper to correct this in a safety defense plan than to pay expensive bills. Highly efficient industrial physicians have aided in this in directing means of protecton.

The Association of Industrial Physicians has become one of the most active organizations in the nation. Whatever has been accomplished for good of industrial work has been done by their body.

Regardless the forebodings we may have for State Medicine or other groupings, Industrial Medicine has come to stay. Let us make it a part of our society, that we may improve it and not injure ourselves. In any event let us discuss it and make its acquaintance.

General groupings in which people are solicited should never be encouraged, because it is only a step behind State Medicine.

Respectfully submitted,

P. S. Mitchell

Iola, Kansas, April 25, 1932. President, Kansas Medical Society.

THE LABORATORY

Edited by

J. L. LATTIMORE, M.D., Topeka

Agranulocytosis

The basis of this report is the review of 11 deaths from agranulocytosis, reported during the past twelve months to the Kansas State Board of Health. Only partial review is made of three cases, the writer being unable to establish correspondence with the attending physician in these cases.

Agranulocytosis appears to be a symptom complex and not a distinct disease. Many writers prefer the use of some other name for this condition stating that the name now used implies one thing but in reality means another. Names that have been suggested usually indicate some type of neutropenia. As the name implies, the condition is characterized by the absence or very marked decrease in the granulocytes, commonly known as polymorphonuclear neutrophiles.

Of the 11 deaths reported, the average age was 52 years. However, one case reported, 4 years of age, brings the average down, otherwise it would have been above 60 years. One other of these cases was 37; all others above 40. In my own experience of four cases, one boy was 16; one lady was 45 and the other two past 60. Only one of these cases is included in this report. In the series of 11 cases, four were females and seven were males.

All cases showed the characteristic blood changes, a marked decrease in the total white count, varying from 400, the lowest, up to 10,000. Each case also showed an absence or greatly diminished number of granulocytes. All cases except one showed the decrease in blood count just prior to death. In one case with a variation in count from 900 to 10,000, the highest count occurred on the day of death. All cases also had a moderate degree of anemia; the average red count was 3,000,000 cells.

The temperature was that of a septic condition varying from day to day as much as three degrees. The highest recorded temperature was 105 degrees.

All cases presented the characteristic sore throat and mouth; some showing extensive ulceration of the mouth, tongue and gums. One case had ulceration of the vagina and two cases had marked ulceration of the rectum. Five cases presented extensive metastatic ulcers throughout the body, for the most part on the upper extremities; the jaw as the most common site of surface ulceration.

The pulse was increased in all cases, varying from 110 to 140 per minute, with no variation in the rythm or volume.

Delerium occurred in four cases, in two as a terminal condition. One case that I saw had coma and delerium for four days; then rallied, had complete cessation of all symptoms with apparently complete recovery, so much that he a physician returned to his office for more than two months, only to have a recurrence with death within four days.

The average duration of the disease was 32 days; the shortest 10 days, the longest 56 days. In compiling the days, I did not consider those cases that had a period of complete recovery—only the time they were actually sick.

In one case extensive purpura spots occurred over the upper extremities.

The postmortem findings reported on three cases give us little information and no one finding was present in all three cases. The major findings were: multiple hemorrhages of the skin and intestinal tract; acute splenitis; acute lymphadenitis of the cervical and axillary glands and various heart lesions. It was not considered, however, that the heart lesions were a factor in death.

A study of the therapy used, reveals a wide variation of opinion as to the treatment of choice. All were agreed upon transfusion as being of definite help. Two attending physicians believed that solan gave the best results. Repeated intravenous doses of arsenic were used in five cases but no specific good results were reported. *x*-Ray of the long bones was used in five cases, but in the opinion of the attending physician, no definite help was obtained. In one case, considerable diathermy was used to the long bones and the attending physician believed his best results were obtained from this measure. Other agents used were: liver, ventricu-

lan, various types of lights, foreign proteins and vaccines.

Jackson, Rezinikoff and others report and recommend the use of nucleotide in the treatment of agranulocytosis. Nucleotides are complex compounds containing sugar, a purine base and phosphate. Several cases have been reported where this treatment was used and in each case good results were obtained. It will be interesting to see a summary report on enough cases, from which we may draw some conclusions.

There are few reported cases of recovered agranulocytosis. Whether these cases represent a definitely established diagnosis or merely a case, showing a low white count with decreased granulocytes is not clearly established. In our own laboratory, we see a lady each week for a white count. This lady had a sore throat and a white count of 1,500 last September while a patient at the Mayo clinic for a major surgical operation. In January, her count again went down to 2,000 with 98 per cent lymphocytes. However, she had no other symptoms and within two weeks her blood count returned to normal and has shown no variation since that time. We were quite certain this was one of the so-called agranulocytosis cases; we very much doubt it at present. I am of the opinion there are numerous cases that have been reported as cured that do not show the other symptomatic findings that would justify a diagnosis of agranulocytosis.

SUMMARY

A symptom complex of unknown etiology, with no specific therapeutic agent.

More prevalent in persons past 50 years of age and appears in males more frequently than females.

Nucleotide, transfusion, diathermy and solan appear at present, the best methods of treatment.

The average white count falls below 1,500 per cubic mm. with either an absence of or greatly decreased granulocytes.

RECENT MEDICAL LITERATURE

Edited by

WILLIAM C. MENNINGER, M.D., Topeka

Quinine and Thyroid Disorder—Bram reports a series of cases of exophthalmic goiter in which he administered a combination of quinine and iodine, a series using only quinine and a series using only iodine. He believes that the two drugs are synergistic, one with the other, the complementary effects of iodine and quinine expedited and intensified the beneficial results. He finds that subjects of exophthalmic goiter can take quinine in doses of 30 to 90 grains daily with impunity and often with benefit, and makes the suggestion that quinine may eventually replace iodine in the treatment of Grave's disease. Its effects in many respects are similar to those of iodine and following its use there occurs in the average case an amelioration of the symptomatology of the syndrome. Quinine differs from iodine administration in that it can be given for an indefinite period of time without danger of flaring up the symptoms. It further does not produce the marked increase in the size of the thyroid that so often occurs with iodine administration and while the beneficial effects of quinine are slower in appearing than those of iodine the results are continuous and stimulating.

Bram, Israel: Quinine and Iodine in Exophthalmic Goiter. Endocrinology. 16:157-164. March-April, 1932.

Normal Range of Gastric Acidity—In a report filled with charts and graphs from the gastro-intestinal clinic of the Mayo group there is an analysis of 3,746 records of gastric acidity made in individuals in which careful examination did not reveal any disease which could conceivably affect the mucous membranes or the secretory activity of the stomach. In this series they found a steady increase in the incidence of achlorhydria from youth to old age. At the age of 60 28 per cent of women and 23 per cent of men failed to show free acid on repeated fractional analyses. Free gastric acidity appears to increase rapidly from childhood up to the age of 20 years when the adult values are reached

and at the age of puberty the average value for boys begins to rise considerably above that for girls. The average modal free acidity for men ranges between 45 and 50 units between the years 20 and 40 and the average for women is approximately 35 units throughout adult life. The normal range of free acidity for both men and women is about 90 units.

Vanzant, F. R., et al., The Normal Range of Gastric Acidity from Youth to Old Age. Archives of Internal Medicine 49:345-359. March, 1932.

Chronic Stage of Epidemic Encephalitis—In a discussion of the chronic stage of epidemic encephalitis, Baird cites illustrative cases of various clinical pictures seen in this condition. He made a study of 48 Parkinsonism cases admitted to the Veterans' Administration Hospital in Chillicothe, Ohio, five of whom disclosed rather pronounced psychotic behavior, four oculo-gyric symptoms, three had an associated hemiplegia, one was complicated by syphilis and displayed the phenomenon of echolalia and one attempted suicide. He cites several cases in detail one of whom showed marked, coarse clonic-like tremors of the head and upper extremities and an ape-like gait; one with epileptiform seizures and the reversal of the sleep cycle, a protracted psychoneurotic stage with a suicidal attempt; one with a slight hemiplegia and a unilateral tremor on the paralyzed side and with marked oculogyric symptoms. This paper serves to bring out the tremendous variation in the symptomatology of this very prevalent disease, and his paper is particularly devoted to the matter of differential diagnosis.

Baird, J. H., The Third or Chronic Stage of Epidemic Encephalitis with Illustrative Cases. Medical Bulletin of the Veterans' Administration 8:179-185. March, 1932.

Adrenal Hemorrhage in the Newborn—Reporting six cases that they have studied and a survey of the literature, Goldzieher and Gordon make an intensive study of the symptomatology of adrenal hemorrhage in the newborn. They believe that in life a diagnosis of this condition may be made based on two groups of symptoms: those due to acute adrenal insufficiency and those produced by internal hemorrhage. Either one of these may predominate. The acute insufficiency symptoms consist of an acute onset of high temperature, rapid respiration, petechial or purpuric rash, cyanosis and metabolic changes especially hypoglycemia. The group of symptoms produced by internal hemorrhage include shock, collapse, weak pulse, local signs of abdominal distress, distension and the presence of a mass in one or both kidney regions. They suggest the treatment of intravenous transfusion of blood, injections of glucose and the administration of a potent adrenal cortical extract.

Goldzieher, M. A., and Gordon, M. B.: The Syndrome of Adrenal Hemorrhage in the Newborn. Endocrinology 16:165-181. March-April, 1932.

Child Guidance Clinics—During the last few years a large number of the larger cities in our country have established what are called Child Guidance Clinics to deal with the problem of behavior in children. These have been strictly medical in their scope and under the direction of doctors. A child is studied physically and psychologically and a great deal of intensive study is made by psychiatric social workers. Anderson reports as the results of six years of such work in the Los Angeles Child Guidance Clinic in which time they have seen 1,870 children for such problems as nervousness, disciplinary, stealing, lying, temper tantrums, such difficulties as running away, enuresis, and school problems. Very roughly, 50 per cent of these markedly improved, 20 per cent partially improved, 25 per cent unimproved and about 3 per cent not followed. The Clinic recognizes its responsibility in attempting to apply authentic mental hygiene principles to the individual problems in a community and bears a responsibility to develop new methods of approach and new concepts of mental hygiene of increasing usefulness.

Anderson, F. N., Six Years of Child Guidance. Journal of Juvenile Research, 15:73-96, April, 1931.

COUNTY SOCIETY NEWS

CLAY COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Clay County Medical Society was held Wednesday evening, April 13th, at 8:00 p. m. in the Sun Room of the Clay Center City Hospital. The March meeting was postponed on account of the inclemency of the weather and sickness.

The meeting was called to order by our president, Dr. Carr, at 8:15 and a most excellent paper on "Peptic Ulcer" was rendered by Dr. Henry N. Tihen of Wichita, Kansas. This paper was discussed by the following doctors: Dixon, Colt, Croson, Major Hall, Major Hill, Major Mueller, Stillman, Algie, Cave, Steadman, Carr, and Martin.

Following this discussion, Dr. John L. Kleinheksel of Wichita, gave a very practical treatise on "Diabetes." His paper was discussed by Major Hall, Dr. Stillman, Dr. Carr and Dr. Kimble.

These papers were both interesting, instructive and unusually practical.

The following announcements were made: Dr. C. B. Francisco will be here at the Clay Center City Hospital, April 25, 1932, to be in charge of a clinic for crippled children. This clinic is sponsored by the state for physically defective children who cannot pay. The co-operation of all regular practitioners is solicited.

Dr. Warren Morton of Green, Kansas, will be in charge of the next monthly meeting, May 11. The speaker of the evening will be Dr. R. Lee Hoffmann of Kansas City, Missouri. The meeting will be held at Green—you will be notified of the exact time and place around the first of May.

The June meeting will be held in Clay Center, Kansas, and the speaker of the evening will be Dr. Arthur E. Hertzler The date will be Tuesday, June 7, 1932.

Dr. R. J. Morton of Clay Center, has been confined to his bed for some time and the latest reports are that he is improving. Dr. "R. J." is one of our oldest members and his smiling face and cordial personality is certainly missed at the medical meetings.

A motion was made by Dr. Stillman, seconded by Dr. Diver, that Dr. Tihen and Dr. Kleinheksel be made honorary members of the society. Motion carried.

Owing to the late hour, Dr. Stillman made a motion that we postpone our business session until our next meeting.

On motion the meeting adjourned at a late hour.

J. Leonard Dixon, M.D., Secretary.

DECATUR-NORTON COUNTIES MEDICAL SOCIETY

The meeting of the Decatur-Norton Counties Medical Society was held at the court house, Norton, April 14, at 2:30 in the afternoon. Minutes of the last meeting were read and approved.

The following officers were elected:

President, A. G. Davis, Logan; First Vice President, Fay E. Gaither, Lenora; Second Vice President, E. R. Beiderwell, Bird City; Secretary-Treasurer, W. Stephenson, Norton; Board of Censors, G. A. Van Diest, Prairie View.

Dr. Murray C. Eddy of Colby was elected delegate to the state meeting with Dr. C. F. Taylor of Norton, as alternate.

Drs. Jesse S. Potekin, Hoxie; Harold J. Chapman, Speed, and Edward F. Steichen, Lenora, were elected to membership in the society.

Applications for membership were received from Drs. F. Wayne Brewster and F. A. Brewster, Oberlin; W. F. Daniels, Atwood, and George L. Beatty, Norton.

The following scientific program was rendered:

1. Use of Local Anesthesia in the Reduction of Fractures, Dr. C. E. Steichen, Lenora.
2. Duodenal Stasis, Dr. Wayne Brewster, Oberlin.
3. Arthritis, Dr. Jesse S. Potekin, Hoxie.
4. Educational film and lecture presented at the Cozy Theater on "Infections of the Hand," by Dr. F. A. Brewster, Oberlin. Was well received and the society extends to Dr. Brewster their thanks.

Dinner served at 5:30 at the Kent Hotel.

Thirty members of the society and

eight visitors were present for the meeting.

W. Stephenson, M.D., Secretary.

FORD COUNTY MEDICAL SOCIETY

The meeting of the Ford County Medical Society was held in the Jade Room of the Lora-Locke at Dodge City, Friday, April 8. Dinner was served to the following: Members—Drs. J. G. Janney, president; R. G. Klein, vice president; W. F. Pine, secretary-treasurer; A. C. Armitage, X. F. Alexander, C. E. Bandy, C. H. Briggs, F. E. Dargatz, V. B. Dowler, C. L. Hooper, A. C. Johnson, W. H. Jones, C. E. McCarty, N. E. Melencamp, R. D. Russell, G. O. Speirs and J. A. McLaughlin. Visitors: Drs. C. C. Conover, Kansas City, Mo.; E. M. Ireland, Coats; T. J. Brown and L. R. McGill, Hoisington; H. M. Jury, Claflin; H. H. Miner, Ulysses; C. S. Adams, Macksville; C. H. Ewing, Larned; F. L. Dennis, Dodge City; R. T. Cloud, Spearville; C. D. Updegraff, Greensburg; Fred L. Holcomb, Coldwater; Nat G. Bennett, Haviland; C. E. Sheppard and L. R. Sheperd, Larned; J. A. Blount, Burdett; L. E. Mock, St. John; Mr. William Jones, Ashland, and Mr. Donald G. Holcomb, Coldwater.

Immediately after dinner, Dr. C. C. Conover gave a splendid talk on "Rheumatic Fever and Its Effect on the Vascular System." Lantern slides were used to show the condition of the blood vessels as found at autopsy. Dr. Conover spoke of the similarity of early symptoms found in the early stages of "Syphilis, Tuberculosis and Rheumatic Fever." The subject was covered very thoroughly, and was helpful to all who were present to hear it.

A paper on "State Medicine" was read by Dr. C. L. Hooper, which was well received by the society.

On account of the meeting of the A.M.A. the second week in May, it was decided to hold the Ford County meeting on the third Friday.

On motion the president was authorized to appoint a committee on "Public Relations." The following were named: Dr. C. L. Hooper, chairman; Dr. G. O. Speirs and Dr. N. E. Melencamp.

Dr. J. A. McLaughlin, Greensburg, was elected delegate to the annual state meeting.

Application for transfer of membership to the Ford County Society was made by: Dr. C. D. Updegraff, Greensburg; Dr. H. H. Miner, Ulysses and Dr. Fred L. Holcomb, Coldwater.

W. F. Pine, M.D., Secretary.

LYON COUNTY MEDICAL SOCIETY

On April 11, the Lyon County Medical Society held an all day meeting in celebration of the fiftieth year since the founding of the society.

The afternoon was given over to clinics held at the Newman Memorial County Hospital. Dr. F. C. Neff held clinics for children with a wealth of material brought in by the local physicians. Dr. Ralph Major held clinics and electrocardiogram demonstrations for a large number of cardiac cases.

A banquet was held in the evening for the visiting physicians, wives and friends. Dr. Fred Lose, president of the Lyon County Society was toastmaster. Dr. P. S. Mitchell, state society president, brought greetings from the state society. Dr. Jabez N. Jackson gave an address chiefly concerned with carcinoma of the breast. After the banquet a show was put on at one of the local theaters.

Approximately sixty physicians were present from the counties embracing the Lyon County Society and adjacent territory. A history of the Lyon County Society was given by Dr. F. A. Eckdall, a member of the Lyon County Society, giving important developments since its founding April 11, 1882. At present, there are 41 active members and one honorary member, Dr. S. P. Resor, who joined this society a few years after its founding. He is still in active practice and a regular attendant at the scheduled meetings.

C. E. Partridge, M.D., Secretary.

RILEY COUNTY MEDICAL SOCIETY

The Riley County Medical Society met in regular session Monday, March 14, at the Wareham Hotel.

After dinner the following program and business was completed.

Dr. Mathews gave a report of the rulings of the commission on crippled children, and also the rulings of the attorney general covering same.

The following motion made by Dr. Colt, Sr., was passed with instructions that the secretary send a copy to the Marshall County Medical Society, that the Riley County Medical Society wishes to extend, through the Marshall County Medical Society, its congratulations to Dr. M. A. Brawley, your president, on his vindication in winning his recent mal-practice suit.

Dr. Ralph G. Ball was elected to full membership in the society.

Drs. Schwartz and Clarkson presented papers on the treatment of burns from a medical as well as a surgical standpoint. Papers were well received and discussed by all present.

Members present: Drs. Mathews, Clarkson, Sharp, Colt, Sr., Colt, Jr., Groody, Nelson, Siever, and Cave.

The Riley County Medical Society met in regular session at the Wareham Hotel Monday, April 11, at 6:00 p. m.

After dinner the following program and business was completed.

Motion made by Dr. Colt, Sr., that the regular place of meeting be changed from the Wareham Hotel to the Gillette Hotel. Motion carried.

At the meeting of the Riley County Medical Society April 11, 1932, the following resolution was unanimously passed:

"Whereas, The last legislature passed a bill compelling the counties of the state to levy one-tenth of one mill, on all taxable property, for the purpose of creating a fund for the care and treatment of crippled children; and

"Whereas, A crippled child is defined by this law, as one under 21 years of age, of sound mind with some deformity or chronic malady which may be cured or materially benefitted; and

"Whereas, The crippled children's commission has not seen fit to name hospitals and physicians and surgeons to care for children suffering from such chronic conditions as tonsils and adenoids, defective vision, defective teeth, and other chronic maladies, be it

"Resolved, That this organization request the crippled children's commission to immediately designate hospitals and physicians and surgeons in all cities of the state, to care for these children so afflicted. That a copy of this resolution be spread on the minutes of this meeting, a copy be sent to the crippled children's commission, to Governor Woodring, the attorney general and each of the Manhattan newspapers, and the representative to the state council be requested to present the same resolution to that body."

Dr. C. H. Kitselman of the veterinary department of the college gave a talk on undulant fever, which was enjoyed and freely discussed by all present.

The following members were present: Drs. Cave, Colt, Sr., Colt, Jr., Mathews, Siever, Groody, Attwood and Nelson.

Chas. M. Siever, M.D., Secretary.

SHAWNEE COUNTY MEDICAL SOCIETY

The Shawnee County Medical Society met in regular monthly session at the Hotel Jayhawk, Monday evening, April 4, 1932. Mr. John E. Kirk, vice president and trust officer of the National Bank of Topeka, was the guest speaker and discussed "Building and Conserving an Estate."

The by-laws of the society were amended providing for a Public Relations Committee consisting of seven members. Such matters as touch on the relation of the profession with the public are to be referred to this committee. The members are appointed for three year terms, except the secretary of the society, who is ex-officio a member and secretary of the committee.

Earle G. Brown, M.D., Secretary.

WYANDOTTE COUNTY MEDICAL SOCIETY

The regular meeting of the Wyandotte County Medical Society was held at the Wyandotte County court house, 8 p. m., April 5, with Dr. L. B. Gloyne, president, presiding.

Committee chairmen reported their progress on arrangements for the forthcoming annual meeting in May.

Essays were read on the following scientific subjects: "Gleet," by Dr. E. R. Millis who presented the subject in a most interesting and instructive manner. Dr. C. E. Hassig's paper on "Visible Eye Diseases of Importance to the General Practitioner," in which a very complete and instructive differential diagnosis was given.

The attendance was fine. Let's keep it up.

C. Omer West, M.D., Secretary.

DEATH NOTICES

Menno H. Hostetler, Wichita, aged 50, died April 10, 1932, of angina pectoris at Topeka. He graduated from Ohio State University in 1911. He was a member of the Society and at the time of his death was full-time county health officer for Sedgwick county.

Archibald Olney Burton, Wichita, aged 76, died March 1, 1932, of coronary embolism. He graduated from University of Louisville (Ky.) School of Medicine in 1879. He was not a member of the Society.

John William Smoot, Fulton, aged 66, died March 15, 1932, of chronic interstitial nephritis. He graduated from Rush Medical College in 1891. He was not a member of the Society at the time of his death.

James Gratton Kennedy, Elk City, aged 67, died March 29, 1932, of influenza pneumonia. He graduated from Jenner Medical College, Chicago, 1898. He was not a member of the Society.

Worthington Hooker Osborne, Nickerson, aged 83, died March 16, 1932, of arteriosclerosis at Hutchinson. He graduated from Kansas City Medical College in 1876. He was not a member of the Society.

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ORIGINAL ARTICLES

PRESIDENT'S MESSAGE

The Importance of Recognizing the Human Element in Medical Organization*

P. S. Mitchell, M.D.
Iola, Kansas

Members of the Kansas Medical Society, and Guests:

I would be entirely unmindful of the honor you have bestowed upon me if this were not the proudest day of my life; so with a simple desire to push our body a step forward, I halt but to again thank you.

In these days of depression, insubordination and unrest, it should be eminently gratifying to the pilot of the great ship of this widely diffused medical body to guide her through the shoals of public sniping and past unseen rocks of professional misgivings without wreck or ruin.

Before selecting my subject, the archives were searched that I might determine a recommendation which was unidentified with former discussions. It was early and conclusively recognized that our society had been gloriously enriched by former contributions of systematized thought, whose ramifications seemed to have explored almost every rational endeavor in our profession. Surrounded by this storehouse of intellectual wealth, it was my good fortune to fall upon an address on Hospital Personnel by Dr. Joseph Brenneman, delivered before the American Pediatric Society, in which he quoted that great leader of men, the First Napoleon, as saying: "The important things, the determinable things in army, are those which are not capable of sensible weighing." "In other words," comments Brennemann, "it is not the number of men nor the cannon; not the idealness of equipment and organization, but the subtler spirit of enthusiastic and self-effacing co-operation, of steadfast, sympathetic loyalty and devotion to a common cause, that is bigger than any individual, that wins battles."

I read and re-read this part of his address, and recalled my many experiences in Councilor service, wherein doubt and suspicion were frequently so expressed by the ranks with reference to members of advanced standing and accomplishment. It occurred to me that if Napoleon and Brennemann were correct, the same could be judiciously applied to our society. It is readily conceivable that our body was well organized, but it lacks the binding qualities of effective cohesiveness. We are frequently referred to as the "most tightly bound trust in the world." As a matter of fact, we represent anything but a trust. We hold no means of punishment whatsoever, except for violation of the state medical laws which were passed by the public, and this punishment consists only of expulsion. However, punishment is not the essential remedy. The cure must be found in that psychological acknowledgment, as quoted above from the world's greatest military leader, which I shall endeavor to transport to our own peaceful body, and draw a lesson therefrom as an appeal to our associative rectitude.

Medical organization possessed no real significance, prior to the ushering in of our present century. Science had achieved many remarkable things, even at intervals during the medieval ages, but it remained for Louis Pasteur near the middle of the last century, while experimenting with yeast in French vineyards, to contribute a birthday for modern scientific medicine. Lord Lister had suspicioned that a poison floated in the atmosphere which in some way interfered with the healing of wounds. Koch, Behring, Eberth, Klebs, Kitisato, Wright

*Read before the annual meeting of the Kansas Medical Society, Kansas City, Kansas, May 3, 4 and 5, 1932.

and others followed in succession with their findings, and before the end of the century all of the present known germs were dragged from their hiding and some even made to elaborate substances for self destruction.

As this new illumination of disease gained distinctive confidence, prolific broods of quacks, cults and pseudo religious racketeers, the vultures of science, were hatched and began to prey upon the credulous public. Long haired announcers toured the country selling patent medicines. Quacks featured the greater space of the newspapers with their pictures and promises. Diploma mills sprang forth like mushrooms to hang out glittering signs; fleece the public for a season and as quickly close their doors only to be reopened in another city. Religiously named but financially inclined dogmas, whose theories were nurtured upon the appeal to sympathy, in a fight upon vivisection, made their advent, and strove hard to break the progress of scientific advance. Advertising being the necessary asset to the charlatan's success, the public press soon became an impressionable subject to that influence and largely contributed toward making the doctor the brunt of every imaginable joke. The above mentioned religious cults, quacks and patent medicine concerns entered into a united opposition to vivisection, whose truly purposeful aim was an obstruction to scientific achievement. Amidst this chaotic pollution, at the dawn of our century, the profession found itself fighting for its very existence. The public, whose lives we were endeavoring to protect, lined up its forces with the enemy in large numbers and sympathy.

The National Medical Society had received its baptism about the time Pasteur had announced his discoveries, and had progressed only as a scientific body. It was inevitable that something must be done to clarify the filth and protect the public against itself. A committee of men, to whose rare judgment we owe our present county unit system, met in Chicago and evolved an order of government. An organization evangelist was selected to preach the gospel, which required about two years to place every county under a charter. This made of the county society the sovereign unit and the sole gateway to the National Association. It would appear useless to repeat all this well known history, except to refresh our memories regarding the purely technical part of the organization. The assembling of these constituted rules was an essential requirement and was consummated in a highly congratulatory manner. The plans and principles are apparently without fault. It is a more perfectly federalized democracy than our national government.

Careful observation will determine that there are very few of the members of our society who religiously visualize the beauty, power and freedom so cleverly woven together in the one simple plan. The constitutional ensemble represents a magnificent achievement in parliamentary forethought and representative initiative. It delineates a contribution in governmental form that might well become a suggestive lesson in federalized democracy to those countries which are now experimenting in social adjustment. At times a Councilor is called upon to remove one from the society, or conversely to force one's admittance. This would not admit of the basic principle upon which the constitutional law is founded. The county society is the sovereign body which potentially governs the entrance to the national body, and by virtue of such regulation becomes the indirect but real ruler of the national organization.

The foregoing represents the birthplan of our organization and the technical procedure of the same. Upon casual observation it would be visioned as a perfectly fool-proof piece of machinery which should work without oiling. Incidentally a real change in our slant on life has taken place. We are now living in a period of unsettled fraternalism whose ties possess the minimum of intrinsic value. There would appear to be a stasis of respect for constituted authority. Human society is manifesting a system of undisciplined looseness, freedom and frankness. Pleasure is seemingly the only goal and nothing is expected to in-

terfere with things desired. Even the inmates of our penal institutions become dissatisfied and go on a strike. Our nation is experiencing a much larger per cent of crime than that of any other country. This can only be accounted for in our disciplinary views as exemplified in the home and schools. The world trend today is toward mastery without constructive leadership. If such leadership becomes manifest, it is, as in Rome or Russia, exemplified through means of tyranny and despotism. One who attains a plane of accomplishment and approbation all too frequently becomes unmindful of the paths o'er which he trod, and of the friends on the wharf who waved him a bon-voyage.

As world mixers and globe-trotters, our profession has absorbed some of its bad as well as its good. In this age of pleasure, the degree of which is measured largely by the yard stick of financial standing and renown, the fight for mastery and position is a strenuous one and is not always engendered by a high type of integrity. Even within our profession, men of advanced standing have been known to violate professional decorum to the degree that were such violation enacted among the ranks, charges of unwarranted misbehavior would be made at once. Strife for control has grown so extremely acute, that at times it becomes difficult for one to distinguish meritorious accomplishment from high flights in frenzied finance. Among those whose names are widely recognized are individuals who have been known to extract enormous fees for opinionated diagnosis which proved to be in error. High powered salesmanship, instead of meritorious worth, frequently stands forth with unimpeachable evidence. Exploitation of patients and division of fees, under the guise of maintenance of clinics, are carried on. Many of these same men are viewed as glittering lights in organizations whose self-selected privileges have enabled them to assume a directorship over the workings within the ranks.

This has become so manifest that as a Councilor the writer found it very difficult to make an appeal on the principles of ethics. To every charge the respondent demurred with an alibi of outstanding precedent, wrought by men of rank.

During a recent period a new element, provocative of criticism within the ranks, has appeared. This most mooted subject, called to our official observation, is that of state medicine, which may more properly be designated as communistic medicine. Careful examination has failed to convince us that the types of group medicine as now being practiced, while acceptable to the employer, are not functioning with a real degree of satisfaction.

The clinic is an accepted working body which most of the profession condone in a greater or less degree. It has accomplished such splendid advancements in directing a thoroughness of technical diagnosis of the entire body, that the more noticeable shortcomings have been largely overlooked. Clinics should be susceptible to the same criticisms that are administered to other group treatments, but they are so organized as to maintain a more superior air of respectability. Their means of divisions of fees as compared with illicit types differ only in mathematical formulas which determine the same equation. Some of our clinics could well serve as rivals in high finance to the popular factory of transportation on the lakes.

Mild criticism or perhaps only left-handed thrusts against industrial practice may be heard in almost any medical meeting. Yet there are few who do not practice it in some form. The cards are not laid on the table. Industrial medicine is with us now. It is a factor that cannot be eliminated, even if we should so desire. The trouble is that we are unconsciously insincere about this matter. We pretend that we are in bitter opposition, when we really court it. It is quite possible that a noticeably large number of our membership here present rode to this meeting on a pass. This is not directed in a spirit of cynical reproach but simply to more accurately present facts in order that logical determinations may be reached.

The National Organization of Industrial Medicine, now comprises one of the most active in our profession. Our main bodies oppose it, but unmindful of the

parent organization, the industrial system continues in its work and progresses. This in its present status of divided opinion is an unhealthy state of affairs. It indicates a lack in cohesiveness and promotes a centrifugal breakdown of our efforts against internal irregularities. The hand writing on the wall is clearly defined that this system must remain. Then it is my recommendation that it be accepted and regulated. If we fail to do this, ere long much of this work will fall into the hands of educated theorists.

It would appear to the essayist that we may have little to fear from the indiscriminate groupings, so long as the public remain independent freedmen. They will ever demand their privilege of choice. This often continues to be a menace for the employer of industrial service.

About a year ago, it was conceived in the executive department of our federal government, that a definite knowledge regarding the cost of medical treatment to the poor, should be acquired. This desire evidently had its birth in the interior department, whose chief happens to be a member of our profession. A committee was selected from among the most outstanding men of the profession, with the secretary of the interior acting as chairman. The investigation was an exhaustive one, and the report a classic example of technical delineation, which could emanate only from systematically trained minds. Definite comparisons between costs of group treatment and of treatment under individual choice were illustrated to a mathematical exactness and with unbiased thought. Every detail, except that of the personal equation, was carefully noted.

It is needless to state, that from an economic viewpoint the individual choice-method suffered a very unhappy comparison. However, the committee failed to mention that henceforth the people grouped for treatment became largely mechanical beings. The recipient of the treatment, who were blinded by the economical showing, could not perceive that their medical desire and whims in the future must be foregone. The mutual confidences and personal relationships with their doctor could no longer be enjoyed. Their credulous views and individual auguries could no longer find a common ground for sympathy. Family felicities and friendly confidences must be paid in exchange for technical formulas and chemical reactions. No doubt the family physician too frequently lends sympathy, where a little more of the crystalized effort would avail, but life's emotions wield a powerful influence in human progress.

It is not my purpose to discuss the merits or objections to group treatment, nor to criticise the report of the committee. While many will fail to agree with the Honorable Secretary of the Interior, yet he has a clear right to his opinions on the subject. The vulnerable points in his work are, that he was quite aware that the question is far from being a settled one, and that it was sharply objected to by the majority of the profession. Without presenting his recommendations to our high class medical societies for discussion, it was placed in the hands of the daily press for publication and their interpretation, from which source the profession received its first knowledge on the procedure. By virtue of his official standing, great weight was carried in support of the group method. Opinions of the profession were wholly ignored. Such procedure can have no other effect than to encourage professional disintegration.

The secretary's recommendations may prove to be the true solution, but it can only be presumed that the profession should hold the major portion of its regulation and control. We may be drifting into groups, but it is more hopeful to assume that such may never occur. Industrial grouping for treatment is a fixed order. It is with us, and must be dealt with logically and judiciously. Clinics are with us and we must accept them notwithstanding their faults. Some medical adjudication should be devised for both, before it is too late. The bent or inclination of human thought must be permitted its reckoning, but when that natural drift is placed, aggravating auguries should be eliminated.

Men who represent the standards of professional life, of whom direction is expected, and leaders of the profession who stand as models, should endeavor to conduct their activities in such a manner as to promote a confidence free from distrust.

To the credulous and suspicious of our ranks, the advice must be to attend society meetings. A majority of alleged faults vanish on contact. Frequent association is a promoter of confidence. Instead of encouraging a feeling within to tear down another, an endeavor should be made to outstrip and supercede him by superior accomplishment. Mutual confidence, and not doubt, will establish our cohesive strength, and this is essential to win.

As before referred to, the writer has served for many years as a councilor. The chief duties of this office are to iron out the major difficulties of the county societies. In attempting to correct the group entanglements and individual faults, it has been found that a rebuttal, relative to men of higher standing, is ever in evidence. Attention has been invariably directed to a similar procedure enacted in some large clinic, or by a man of outstanding reputation. These outbursts are seeming features of defense, but seldom are they demonstrative, and become a smouldering and dormant fire, which lacks but a fanning breeze to produce a conflagration of marked degree. Nor are the accredited, or those elevated to positions of authority by popular vote, the only source of cohesive insecurity. It may be true that potent lives first forget the human touch which makes all the world kin, and from them evolve a sordid doubt in the minds of those who are less fortunate. It follows then, as the maxim goes—" 'Tis he who drinks misfortune's cup, who first evokes the cynic's ban." So the ranks become suspicious, reckless and indifferent. They are thoughtless of decorum. Their suspicion becomes a malicious venom. One may try as he will to relieve their minds of those thoughts, yet they persist.

Then it is "not the numbers of men nor of cannon"—we have a large and active membership and our means with which to fight are adequate. "It is not the ideality of equipment,"—no professional body in the world is so splendidly equipped. "It is not of organization,"—in the beginning of my address was demonstrated the magnificent achievement of our organizers. So it must be that indeterminable thing which represents the self-effacing and sympathetic co-operation and devotion to a common cause, that is bigger than any man, which wins battles and must serve to maintain and perpetuate this splendid organization.

In consequence of the foregoing appeal to our professional rectitude, I am prompted to the following recommendation for your consideration.

Industrial medicine is already with us and established. It is our duty to accept it, study it and regulate it as a part of our body before it falls under the control and regulation of some authority whose vision is foreign to our own.

Clinics are with us. They serve an exalted purpose but likewise should not be permitted to be a law unto themselves.

Group medicine is striving hard in an endeavor to obtain a lodgment. It is my belief, that it is voicing the views of this society when I say, this should be tabooed with a firm hand.

In view of the present financial depression of the country I shall only recommend the following for your future but I hope, serious consideration.

The drug addict is the greatest menace of the day to the profession and the public. He is responsible for a large per cent of all types of crime. He uses every resource, of which he has many, to catch the unwary physician off his guard. On gaining one of their confidence it may offer a surprise, to determine the men who became thoughtlessly victimized by them. It is my recommendation that an early plan be studied for a home of incarceration for these unfortunate menaces, to be recommended to our state authorities.

Confirmed inebriates should be housed in the same home.

Mild aments of adult age should have a home to furnish a relief to society. Means of sterilization should be studied and carried out.

The housing of the venereals at the state penitentiary was a war measure and is wrong in principle. To continue this institution as a well studied provender for moral uplift as well as disease correction is a noble effort to be commended but it should be removed from its present association with the state penitentiary at the earliest possible opportunity.

LEGISLATION IN THE INTEREST OF VETERANS*

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The term "Veteran" as used in this discussion refers to men and women who have been so classed by Acts of the United States Congress.

In order to make plans for the medical care of any group of people, which plans will be logical and effective, it is necessary to know something of their number, their age, their sex, their location, their economic status, their occupations and social conditions, in addition to information as to the peculiar types of conditions (diseases and injuries, if any) likely to arise among them.

There are about 4,500,000 men and women in the United States who are classed as Veterans. All but about 30,000 are men. Their average age is about 40 years. A vast majority of them are veterans of the World War. The next largest number are veterans of the Spanish-American War, and the third largest group are veterans of the Civil War.

Based on the most reliable information obtainable as to distribution, we can say that they are located in every state, every city, every township, and rural district in the United States. Their distribution is not materially different from that of the population of the country as a whole.

Veterans occupy every round of the economic ladder, from the beggar on the streets to the prince of wealth. In so far as I can learn, the number found in each of the various economic groups corresponds proportionately to that of the population of the country as a whole.

They are engaged in every form of activity known to our country. There are laborers in industry, farmers, both tenant and owner, clerks, executives, professional men, doctors, clerks, executives, lawyers, preachers, politicians and statesmen. Veterans are found in every group. It is reasonable to assume that a vast majority of them are married men and the heads of families.

With certain exceptions to be mentioned later, the disabilities (diseases and injuries) to which they are subject are the same as those to which other men of a similar age and occupation are subject. The exceptions are certain types of injuries received in the war, which are not often met with in civilian life. For example, the nervous condition designated "shell-shock," in the veterans of the World War, and amebic dysentery among veterans of the Spanish-American War. Veterans are now civilians. They are engaged in civilian pursuits. They are living the lives of civilians.

The diseases and disabilities which this group of people will suffer as time goes on, are those which will afflict the rest of the population of the country. The most prevalent acute disease will be acute respiratory conditions such as influenza and pneumonia, acute surgical diseases such as appendicitis and cholecystitis, acute injuries such as result from automobile and industrial accidents, etc. Other diseases will be the heart diseases, kidney diseases, cancer and other degenerative diseases. The acute conditions which ordinarily attack young adults will not occur with great frequency in this group.

PHYSICAL CONDITION

The physical condition of this group, as a whole, is superior to that of a like number of men and women of a similar age. That is excepting those who suffered war injuries. The following reasons are offered to substantiate this statement:

First, men who are not physically fit are not taken into the army or navy. Over thirty per cent of the men who were registered under the draft act were rejected on account of physical defects.

*Read before the annual meeting of the Kansas Medical Society, Kansas City, Kansas, May 3, 4 and 5, 1932.

Second, veterans of the World War constitute a vast majority of the total number of veterans. Of this number only a relatively small proportion saw front line service. About half of the number left the shores of the United States. About 400,000 of them were in the Student Army Training Corps, in colleges and universities of this country during their entire military careers. All of these men received physical training regarded as beneficial. All received instruction and practice in hygiene and sanitation. All received treatment to immunize them against typhoid fever and small pox. For these reasons, the disability rate of this group of people should not be as high as that of any other group of similar age, size and distribution in this country.

It is obvious that our task is not that of planning medical and hospital service for an isolated group. Such a group, for example, as soldiers in the fields, or in camps; or a group of industrial workers employed in some one industry. Nor are we planning for people who occupy one particular economic sphere. One's inevitable conclusion is that the medical and hospital needs of veterans will correspond to those of the people of this country as a whole, with the exception of the diseases of women and children.

PLANS ALREADY IN EFFECT

At this point it is necessary to make brief reference to some plans already in effect for the care of this group of people.

When the World War ended the government set about making provisions for the care of those soldiers who had incurred disabilities during their military service. Hospitals were built or acquired. Contracts with civilian hospitals were made. A medical person was employed, an elaborate organization set up for the purpose of giving these men every attention possible. In the fall of 1922 an effort was made to effect a contact with every veteran who had any disability whatever with a view to giving him an examination to determine if his disability had any service connection.

The Congress of the United States began the enactment of legislation in the interest of disabled veterans. As was natural, under our system, the legislation was not always well planned. In one instance, a group of veterans would sponsor a piece of legislation that would affect some particular group of veterans. In another instance a congressman would originate a bit of legislation that would affect another group of veterans, and so on. By the enactment of a large number of separate bills affecting various groups federal legislation in the interest of veterans gave something of the appearance of a "crazy quilt."

In 1924 all the legislation in the interest of World War veterans was codified into what became known as the "World War Veterans' Act" of 1924.

It will be remembered that up to this time most all the legislation was in the interest of those veterans who suffered disabilities from injuries or disease while in service. These are called service connected disabilities. In this same year (1924) legislation in the interest of disabled veterans, who suffered no disability from war service, began. Among the early bills was one which provided that an ex-soldier of the World War who developed tuberculosis at any time prior to 1925 is presumed to have contracted the disease in service or that the disease was aggravated by service, thus making such cases of tuberculosis service-connected by legislation.

Also in 1924 the congress went a step further and enacted the first part of paragraph 202-10 of the World War Veterans' Act. The essential provisions of this paragraph are that free hospitalization and traveling expenses to and from the hospital are provided for veterans suffering from six specified conditions which are not of service origin. These six conditions are: neuropsychiatric conditions, tuberculosis, paralysis agitans, encephalitis lethargica, amebic dysentery and the loss of the sight of both eyes. Veterans with these conditions were eligible to these benefits so long as beds were available.

It will be remembered that in 1924 a large percentage of beds in veterans' hospitals had been vacated by reason of the fact that veterans with service con-

nected disabilities had recovered, died or reached such a state of improvement that hospitalization was no longer needed.

It is obvious from the wording of this paragraph that the sponsors of this legislation thought that veterans suffering from these particular conditions might just as well occupy vacant beds in veterans' hospitals. Especially is this true in view of the fact that facilities for the care of the insane and for the care of tuberculosis were crowded. In a short while this particular paragraph (202-10) was amended and this amendment empowered the director of veterans' affairs to furnish free hospitalization and free transportation to and from the veterans' hospitals to all veterans who need hospitalization, "*without regard to the nature or origin of their disabilities,*" with the additional provision that these benefits are to be allowed so long as beds are available. In such a manner the original provisions of paragraph 202-10 effecting veterans with six definite chronic conditions was broadened so as to include every form of disease or disability suffered by any veteran without regard to his economic condition and without any regard whatever to the origin of his disability.

Pursuant to the powers thus created the congress appropriated money for the construction of veterans' hospitals in large numbers, and the construction has gone on as rapidly as money has been apppropriated. Thus was inaugurated the federal system of hospital, medical and surgical service for all diseases and injuries of all veterans requiring hospitalization without regard to service or without regard to the nature or origin of disabilities.

If such a program or policy is to be carried to its logical conclusion, and there is no reason to doubt the intention of the congress and the veterans to carry this policy to its logical conclusion, it simply means the construction of a sufficient number of veterans' hospitals throughout the United States to accommodate all of the hospital needs of all the veterans.

It requires little thinking for one to recognize that such a program could not be completed in a short period of time. For this reason the facilities at the present time are wholly inadequate to accommodate the needs of veterans. Therefore, only a small part of veterans can be benefitted. It is perfectly obvious also that the time soon will come when the number of beds will exceed the needs of veterans. It is also obvious that such hospitals would be of little use to veterans suffering from acute emergency conditions.

In thinking of this particular situation I was driven more and more to the conclusion that this program on the part of the federal government is unnecessary under existing conditions; unsound from the standpoint of public policy; unsatisfactory from the standpoint of the veteran and uneconomical from the standpoint of the government. I, therefore, sought to work out a plan whereby the veteran who is disabled would be given financial aid by the government and still remain in the normal channels created for the care of all sick people—namely, in the care of the physician and hospital at or near his home, and at the same time preserve to the veteran the privilege of making his own selections as to his doctor and hospital.

In an attempt to work out such a policy one's thought naturally turns to some sort of disability insurance. This is a form of protection which a large per cent of people purchase for themselves. It is a form of protection with which we are all familiar. It has been found satisfactory in meeting the needs of people. Such protection is being sold in increasing volume all the time. Individual policies are sold; group policies affecting large groups are sold. Such a plan of benefits was incorporated into Workmen's Compensation Laws throughout this country.

The carrying out of such a plan would involve the government in no construction at all. All the money spent by the government, except the actual cost of administration, would go direct to the veteran when disabled from any cause not service connected. Every veteran would be equally benefitted regardless of whether he lives in some remote section,

or next door to a veterans' hospital. The benefits would be available to veterans immediately without awaiting for the completion of an enormous hospital construction program.

I, therefore, wrote out a brief statement of such a proposal in the form of a resolution and presented it to the House of Delegates, in Philadelphia, last year. It was adopted with the result that there was an immediate kick-back from veterans all over. I received some condemnatory letters from almost everywhere from men who knew nothing of the proposal. I have since received endorsements from many of the same men.

THE PLAN

I have made a tentative draft of an amendment to the World War Veterans' Act with these principles embodied in it. Its provisions, briefly, are as follows:

1. That the government issue to every veteran a disability insurance policy, or certificate of disability benefits, with benefit provisions as follows:

(a) The payment of a cash benefit to a veteran during any period of total disability for causes which are not service-connected,

(b) The payment of a hospital benefit in addition to the cash benefit during any period of hospitalization for causes not service connected.

You will please bear in mind that all diseases which are of service origin are not affected by this plan, and under the provisions of the tentative draft the six diseases mentioned in the first part of 202-10 are not effected by this plan. All other disabilities would be treated under this plan.

In the tentative draft it is provided that the cash benefit be $12.50 per week and the hospital benefit $4.00 per day, payable to the veteran. These amounts may not be just what they should be but the weekly cash benefit is in line with the amount of weekly benefits paid under Workmen's Compensation Laws in this country, and the hospital benefit of $4.00 per day is in line with the cost of administering general hospitals in this country. These amounts could be adjusted to conditions as they arise in the future without changing the plan or system of administration.

THE ADMINISTRATION OF THE PLAN

The administration of the plan would be as follows: The administrator of veterans' affairs in Washington would become the administrator of this law through the bureaus which are already established throughout the United States.

You will remember there is a veterans' bureau in every state, and a physician appointed in many of the counties who is known as a designated examiner.

The details of the administration would correspond to those of a private insurance concern.

A veteran is taken ill or receives an injury. He calls his physician who takes charge of his case. He is removed to a hospital or not, as the case may require. The disability is reported to the veterans' bureau. If hospitalized this fact is reported. The veterans' bureau can make such examination as it may deem necessary to determine whether or not the claim thus filed is bonafide. If it is found to be bonafide it is paid. If it is not found to be bonafide it is disallowed. By such a check fraud would be prevented if attempted, and in the case of genuine disability the aid comes at the moment when needed and is of a character that is needed.

Compare this with the administration of veterans' hospitals. It is as follows: We will assume that the same veteran is ill with the same condition. The veteran calls his physician who advises him that hospitalization is needed. Then the condition must be reported to the veterans' bureau. The veterans' bureau must make an examination of the veteran to determine if hospitalization is needed. When this examination has been made and hospitalization determined upon the veterans' bureau must locate a vacant bed in a veterans' hospital. When the bed has been located then arrangements are made for transportation of the veteran to that particular bed. Now contemplate, if you will, the delay and the complications incident to the administration of this particular form of benefit to a veteran who resides at some distance from a veterans' hospital, and who is suffer-

ing from some form of emergency condition.

I might cite you at this point a personal experience. A veteran who lives some sixty miles from Nashville was taken ill one afternoon with pain in the abdomen. He went home and took a purgative, paregoric and various other home remedies. The following morning he called his doctor. The doctor diagnosed the condition acute appendicitis. He put him in his car and brought him to my office with a view to my operating on the man. The man knew he had the right to go to Memphis to the Veterans' Hospital and demanded that he be sent to Memphis. (It is 240 miles away.) I, therefore, contacted the veterans' bureau and told them the circumstances and asked that the man be examined. A doctor was sent and the diagnosis was confirmed. That was about noon following the day of onset. The next train to Memphis ran at 11 p. m. He was held over. An attendant was put with him. He was sent to Memphis and arrived the following morning and was operated on that day. Instead of him being a twenty-hour appendix he was a forty-eight hour appendix when operated on. The last I knew of the case he had been in the hospital some three months. It is possible that he had drainage with weakened abdominal walls and may be in line for some form of permanent disability.

So much for the administration of the two plans.

Other questions naturally arise. One of the first is this—Are there adequate facilities in the United States for the care of these veterans and the civilian population? This may be disputed but I assert on what I think is good authority that the facilities are adequate.

Let us consider for a moment what constitutes good medical attention. *Good medical attention consists primarily of the attention of a good doctor whose efforts are supplemented by facilities such as laboratories, hospital equipment, instruments, nursing, etc., as the case may require.*

The institutional factor has been overemphasized in the last few years in connection with the care of sick people. Capable authorities have often urged that the attendance of a good doctor with the nursing care that is available in the average home in the United States constitutes all the care that is necessary for a majority of illnesses that occur. I don't think this statement would be disputed by anyone who has had experience with the care of sick people.

The need of hospital and laboratory facilities for those who need this type of attention goes without saying. It needs no emphasis.

To hospitalize a patient who does not need it is of no advantage to the patient and adds enormously to the cost of his care. On the other hand to fail to hospitalize a patient whose condition does need it, and to fail to attend to it promptly is to fall short of the proper care and subjects the patient to hazard.

Are capable doctors and hospitals available in the United States? First, as to doctors. There are over 140,000 doctors, of whom over 91,000 are members of the American Medical Association. The number certainly is adequate. As to their ability a few statements will suffice. About 30,000 of them fourteen years ago were found qualified for service in the army and navy. About 9,336 are qualified for membership in the American College of Surgeons. A similar number are in the American College of Physicians. Large numbers are members of various other special groups which require superior qualifications for membership.

A large portion of the membership of this society is familiar with the steps that have been taken in the last twenty-five years to improve the qualification of doctors. You are familiar with the results that have been obtained. I believe you will all agree with the statement that the medical services rendered by doctors throughout the United States are equal if not superior to that rendered in any country on earth.

There is no need of my discussing at any length the training that graduates of medicine have had since the World War. These doctors are distributed proportionate to the population as a whole. They are so located as to be available

and in easy reach of most any point.

Second: Hospital facilities. You are familiar with the tremendous progress that has been made in recent years with reference to hospitals. Their number has increased enormously. The quality of their service has increased correspondingly. As of 1931 there were 6,767 hospitals in the United States.

The College of Surgeons some years ago began the work of standardizing hospitals. Not all hospitals have requested a classification by the college, but a sufficient number have been examined and approved to give us a definite idea of the hospital facilities of this country as a whole.

There are 2,158 hospitals on the approved list of the college for the year 1931, with a total bed capacity of 324,216. Of these beds 23 per cent are unoccupied. Their distribution is proportional to the population; large ones in large centers and small ones in small centers. Of this number 64 are veterans' hospitals. The other government hospitals are army and navy and public health service.

At this point, it is necessary to give emphasis to the distribution of hospitals because their distribution has a definite bearing on their availability for services for routine injuries and illnesses requiring hospital care. The chronic conditions such as insanity, tuberculosis, etc. may be hospitalized a long distance from home. The delay of admission for a short time is no serious matter. You are all familiar with the fact that delay in the case of acute appendicitis may mean the complication of peritonitis, or abscess formation. It may mean death or prolonged drainage and some degree of permanent disability. So hospital facilities not only must be adequate—they must be so located as to be available without delay and long travel.

The economics of the plan. Someone may suggest, as has often been suggested, that there is no provision in the plan I proposed for doctors' fees. My answer is that it was purposely left out. It is the common practice of doctors to do worthy charity without cost. Their charges, when made, are proportioned to the ability of the patient to pay. Doctors then will look to the private resources of the veteran for their remuneration. Those able to pay will pay. Those not able to pay will not pay.

HOSPITALS

The hospitals of this country are eleemosynary institutions. Their charges for service vary from nothing to several dollars per day in the same institution where the same laboratory, the same *x*-ray equipment, the same technicians, the same personnel and practically the same service is given to charity, part-pay and full pay patients. A large number of hospitals are operated by the Catholic Church. Others by Protestant denominations such as Methodist, Episcopal, Baptist, Presbyterian and others by Jewish people. Some are supported by fraternal orders. Others are partly supported by counties and municipalities. They are not run as profit making institutions; their purpose is the care of the sick people in the communities in which they exist.

The hospitals are not perfect. No one could say that the government is perfect, or that humans are perfect. I do believe that there is ample evidence to support the assertion that the United States is better supplied with excellent hospitals than any other country on earth.

I would insist, therefore, that the facilities for the proper care of veterans, both as to doctors and hospitals, exist already in the United States. Under the plan proposed the veteran seeks and obtains the services of the doctor of his preference in his community. If hospitalization is required he would seek and obtain admission to the hospital of his choice. If he is a Catholic he prefers a Catholic Hospital—he is more contented there. If he is a Protestant the same rule might apply. He obtains hospitalization in close proximity to his home where he can be visited by his family which will promote his contentment.

The money paid by the government to the veteran in the way of hospital benefits would go to the treasuries of the hospitals. It would be expended by them, not in dividends to stockholders, but in improving the equipment and service of

the hospitals. Thereby the hospital service of the country for the veteran and non-veteran alike would be improved.

This plan steps in as an aid to the veteran who is disabled but does not need hospitalization at all. The veteran who can receive adequate treatment at home had better be left at home.

It may be alleged that the veteran may make a poor selection of a doctor, or that he may be tempted to become a malingerer and draw payments to which he is not entitled. It is perfectly reasonable to assume that a relatively small number of veterans might select the doctors least capable of rendering service. In that event the *designated examiner* for the veterans' bureau in the same community would make an examination of the veteran. If the veteran is malingering it would be discovered and his claim disallowed. If an error in diagnosis has been made, an opportunity for correction is thereby afforded. A consultation has been brought about between the good doctor and the poor one in the interest of the veteran. The operation of this plan would, therefore, tend to improve the medical attention veterans are receiving at home throughout the country today.

COST

The cost of the operation of this plan must be within reason. It is determined by three factors, viz, (1) The disability rate. (2) The amount of the cash benefit, and (3) the amount of the hospital benefit.

An enormous experience has grown up in this country on which to base an estimate of disability expectancy. One week per year per person among industrial workers, both men and women, both colored and white, is the usual disability experience.

Veterans should not give a disability rate so high. Their age is a favorable factor. Their physical training is a favorable factor. Their sex is a favorable factor. Men experience a lower disability rate than women and there are relatively few women veterans. And further, the chronic diseases of service origin are eliminated from this plan, in addition to the six conditions named, insanity, tuberculosis, encephalitis, all of which cause long periods of disability.

For all these reasons, and others which might be mentioned, these veterans should experience a disability rate much lower than one week per year per person. But for the purpose of computing costs, this rate of disability will be used.

In the tentative act drawn, a ninety day service clause was inserted which eliminates those veterans who served less than ninety days. It reduces the number of veterans to about 4,000,000. These 4,000,000 veterans will experience 4,000,000 weeks of disability the first year. The cash benefit will amount to exactly $50,000,000 per year. The disability rate will diminish each year. The cost will diminish each year in proportion. In twenty years the cost would be negligible. Of the 4,000,000 weeks of disability about 10 per cent will require hospital care. This is a liberal estimate for the following reasons:

First, as before stated a majority of cases of acute illness do not require hospital care.

Second, illnesses which do require hospital care do not require it for the entire period of their disability. For example, a case of acute appendicitis is operated on early and discharged from the hospital in one week to convalesce at home. His period of disability may exist for six weeks, depending on the nature of his work. The same is true of acute injuries, gall-bladder disease, gastric ulcer, etc. So this is not an estimate given to make the costs appear small. It is a liberal estimate, logically arrived at.

Ten per cent of the weeks of disability is 400,000 weeks requiring hospitalization. At the rate of $28.00 per week the hospital benefit amounts to $11,200,000, per year.

The cost of administration should not be in excess of 5 per cent of the total benefits. This is in line with the costs of administering benefits by insurance companies. This item at this rate amounts to about $3,060,000 for the first year, making a total cost of $64,260,000 the first year.

As time passes the number of veterans

will diminish, the costs will decrease until the last veteran has passed away. Then the plan ceases to be. There are no buildings and equipment to be abandoned, no large personnel to be disbanded. Civilian medical and hospital service will progress along the usual lines, undisturbed by the effects of a dual system of rendering service—one operated by the government, the other by private enterprise.

This plan is in line with the well established governmental policy of encouraging private enterprise. The government is now lending its credit and money to encourage private industry. The government does not go into manufacturing because that line of business has faults. It does not build railroads or engage in commerce. It rather pursues the policy of aiding these enterprises and acting as umpire to the end that they may be conducted efficiently and in the best interest of the public. Such a policy encourages, it does not stifle individual initiative.

In this insurance plan of benefits to veterans the government acts in the capacity of umpire. It passes on the question as to whether claims are just and as to whether the proper institutional services are rendered.

There is the widest possible difference between the policy under which the government administers benefits in the form of cash which enables the veteran to obtain medical and hospital services as his case may require in the channels already created for the purpose, and the policy which puts the government in the business of creating the facilities, employing the personnel and rendering the actual services to veterans. The latter is state medicine completed and absolute. The other is a form of financial aid exactly when needed, for those to whom the government has assumed a definite obligation.

THE COST OF GOVERNMENT HOSPITAL PLAN

The cost of constructing, equipping, staffing and maintaining a sufficient number of governmenta hospitals to accommodate all the hospital needs of all veterans, to say nothing of the cost of transporting veterans to and from the hospitals, is difficult of estimation. The most conservative estimates possible run into figures that are perfectly enormous. For example, the cost of construction per bed is $3,500.00. The cost of maintaining general hospitals is $4.42 per day per bed. The cost of the professional staff is about $150.00 per year per bed. The cost of admitting the patient, that is the transporting of veterans, is approximately $30.00 per admission. The cost of equipment would be enormous.

A member of the medical council of the Veterans' Bureau estimated that 129,859 hospital beds would be required to meet the needs of all these veterans. This is merely an estimate, in my opinion a very conservative estimate, but no one knows. Based on this estimate the cost of constructing the additional beds would be in round numbers $300,000,000. The cost of the professional staff would be approximately $20,000,000 per year. The cost of maintenance would be approximately $200,000,000 per year, and mind you, it would be necessary to enlarge the Veterans' Bureau to maintain such a system of hospitals, because the bureau would have to do with the examination of veterans to determine the need of hospitalization and with arranging their transportation, etc.

In a few years a large number of veterans now living will be dead. The number of hospital beds would be in excess of the number needed. This excess of beds would increase until the last veteran is gone and no bed would be needed at all. What would happen then? Would anybody be so simple as to dream that such an organization and such buildings and equipment would ever be abandoned?

In this connection it might not be amiss to remind you of what is happening in Congress today.

It seems that everybody is agreed there are many bureaus and departments which are expensive and not at all necessary, yet those departments have developed sufficient political power to resist their political destruction in spite of the added force of the worst economic depression that has ever come upon us.

I can see no ground for hoping that such a program would ever be aban-

doned, but to the contrary I see good ground for believing that such a program would be enlarged until it has engulfed medicine in America.

Anatole France said, "The future is hidden from us all, even from those who make it." However true this may be, I cannot help but entertain a fear as to what the future of medicine in America may be if this policy is continued. As a veteran, may I say I do not believe veterans would have it if they but knew. We must tell them where such policies end. If we fail to do our duty—whose fault will it be?

A STUDY OF DEFECTS IN HOSPITAL STERILIZATION PRACTICE*

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Epidemics of post-operative infections have occurred from time to time in many of our principal hospitals. The outbreaks are usually explosive in character, and affect patients of all surgeons, and patients from all operating rooms simultaneously. Years of investigation of such outbreaks by a committee of noted surgeons, during which records of many thousands of cases were carefully studied, yielded little information as to the actual cause of the infections.

Recently, however, investigators, by approaching the problem from a slightly different angle, have made discoveries which promise to bring to light causes of outbreaks of operative wound infections which were previously unknown. All credit for these discoveries must go to the Chicago Health Department. The Chicago investigations, which coordinated surgical knowledge and engineering methods, were directed toward a study of the means by which hospital drinking and sterilized water supplies may become contaminated. The work was instigated by Dr. Arnold H. Kegel, formerly commissioner of health of the city of Chicago, and Mr. Joel I. Connolly, chief, bureau of sanitary engineering, and has been ably advanced under the direction of Dr. Herman N. Bundesen, present commissioner of health. The writer is indebted to Dr. Bundesen and the Chicago health department for much of the information contained in this paper.

CROSS CONNECTIONS

Cross connections in drinking water supplies have received the attention of public health engineers for a number of years. Any connection in piping which might permit the contamination of a safe water supply by a polluted water is readily recognized as a source of potential infection. Such connections may exist in industrial plants where the city supply is augmented by water from another source for fire protection or industrial uses. Connections to unsafe supplies are sometimes maintained by cities in order to provide additional fire protection in the event of a serious conflagration. Several serious epidemics of sickness have resulted when leaky or unclosed valves have permitted polluted water under a higher pressure to be pumped into the drinking water system. Many state departments of health now have regulations prohibiting the cross connection of a drinking water supply with a polluted water supply for any purpose.

By extending the study of cross connections it can be seen that a direct connection between sterilized and unsterilized water exists on most hospital water sterilizers. The sterilizer is filled with tap water which has been passed through the Berkfeld filter. The valve is closed and the water is carefully sterilized by passing live steam through a heating coil. The cold sterilizer is then cooled and the water is ready for use. If there is a slight leakage in the filling valve, tap water leaks into the tanks and mixes with the water which has been carefully sterilized. If the tap water is bacteriologically safe the increase in total count in the sterilized water may not, perhaps, be serious. If, however, the water in the pipes has been dangerously contaminated through back siphonage from another fixture, the use of sterilized water thus contaminated may result in loss of life.

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SIPHONAGE AND BACK DRAINAGE

Siphonage or back drainage is possible from many plumbing fixtures having submerged inlets. Siphonage from waste pipes whereby the contents of the drain are drawn into the water system is also possible when fixtures are directly connected to waste pipes.

Connolly, in a published article, divides submerged inlets into two major groups. Group one includes all inlets which are constantly submerged beneath the surface of the fixture contents when the fixture is in normally good operating condition. Examples in this group are siphon jets in water-closet and urinal traps, instrument sterilizers, bell supply bath tubs, etc. Group two are those inlets which are not ordinarily submerged beneath the surface of the fixture contents, but which at times become submerged because of stoppage or carelessness in filling. Examples in this group are drinking fountains, lavatories and flushing rim openings in water closets.

The siphonage or back drainage of fixtures can occur when for any reason there is a partial vacuum in the supply pipe which is submerged at the fixture. Most of us have at sometime attempted to draw water from a faucet on an upper floor of a building when the pressure was low, and have been compelled to wait until users on lower floors had closed enough valves to force the water to our level. As we opened the faucet we could hear air being sucked in to replace the partial vacuum in the pipe. This is exactly what takes place in the back drainage of fixtures, except that the inlet is submerged and when the valve is opened the contents of the fixture drain back into the pipes. When the water pressure comes on again the contents of the fixture may be found in drinking fountains, or may leak slowly into the cold water sterilizer. A partial vacuum in the supply pipe may be caused by the excessive use of water on lower floors, by insufficient pumping capacity during periods of peak consumption, heavy draughts from fire plugs in the vicinity, or breaks in the system requiring shutting off the supply while repairs are made.

The siphonage of traps in water-closet and urinal bowls which are equipped with self-closing valves actuated by the water pressure in the supply pipe, may be possible when the water inlet is submerged and when negative pressure in the supply line causes the valves to become self-opening. Improved types of flush valves are equipped with vacuum breakers and auxiliary check valves to prevent the siphonage of toilet fixtures.

Drains to water sterilizers and stills are frequently connected to waste pipes with an unbroken section of pipe. This practice is dangerous, since the condensation of steam to produce distilled water or sterilized water causes a partial vacuum which may suck the contents of the drain into the distilled or sterilized water tank. Direct connections to drains also make it possible for water in the drain to back up against the valves in the discharge line in event there is a stoppage in the drain pipe. A case was recently reported where the exhaust from a large pressure cooker in the kitchen of a city hospital which was directly connected to a drain, permitted the contents of the drain to be siphoned into the cooker when it was filled with cooling soup.

Figure 1 is a sectional drawing showing how water is supplied to the various floors in a small hospital. The operating room and sterilizers are on the top floor, as is customary, and water is supplied to the instrument and utensil sterilizers through inlets at the bottom of

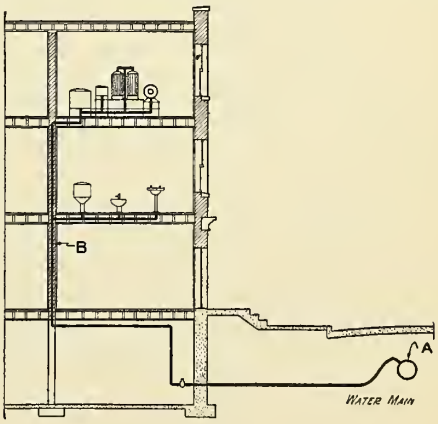

FIG. 1

Showing how water is supplied to the various floors of a small hospital

the units. To illustrate how back drainage and siphonage may result seriously, let us assume the following conditions.

For any one of a number of reasons the pressure in water main "A" becomes low and the water in the vertical riser pipe "B" drops below the level of the third floor. The instrument sterilizer on the upper floor is standing half full of water and the attendant has just placed some pus basins, scalpels and forceps, which were used in performing an operation, into the sterilizer. The filling connection at the bottom is opened to admit fresh water so as to fully cover the instruments. The water, however, is not forthcoming and instead the dangerously infected material in the sterilizer drains into the water pipes. Let us assume that the pressure in water main A continues to drop, the water in the vertical riser B falls below the second floor, and that conditions are such that the contents of the trap in the water closet on the second floor are siphoned into riser pipe B. Pipe "B" now contains infected material from the instrument sterilizer and the contents from the trap of the water closet, which may be infected with typhoid or other disease organisms. The drinking water supply is now contaminated and when the pressure comes on again this infected water is available at drinking fountains or may find its way slowly into the sterilizer tanks through leakage in the valves.

IMPROVEMENT IN DESIGN OF STERILIZING EQUIPMENT

Figure 2 shows a battery of sterilizers similar to installations which are to be found in most hospitals. This is the type of equipment which was sold before the possibilities of contamination through cross-connections and siphonage and back drainage from fixtures were generally recognized. The water inlets to the instrument and utensil sterilizers are at the bottom of the fixtures and are therefore submerged inlets. The piping supplying water to the sterilizer tanks is not equipped with telltale fittings which would indicate and make impossible a slow leakage of tap water into the sterilizer tanks when the valves are closed. Usually the entire battery is connected

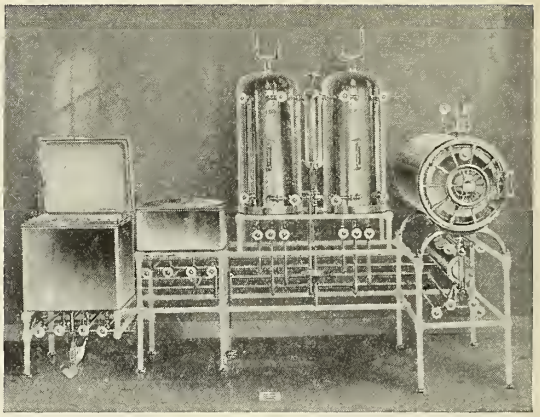

FIG 2
Battery of sterilizers similar to installations found in most hospitals

to a common drain which in turn is direct-connected to a waste pipe. If a distilled water tank is included in the battery, the partial vacuum created in the condensation of steam may suck the contents of the drain into the water tank, or a stoppage in the drain may cause the water in the waste pipe to back up against the valves in the discharge lines from the sterilizer tanks.

Following the Chicago studies, manufacturers have made a number of revolutionary changes in the design of hospital sterilizing equipment. These changes have resulted in the elimination of the defects which have been heretofore discussed.

Figure 3 is a manufacturers drawing

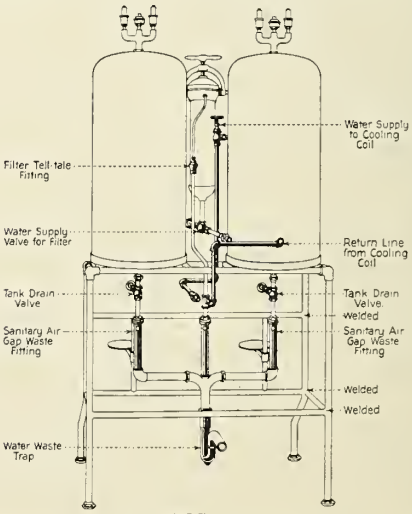

FIG. 3
Water sterilizers showing filter tell-tale fitting and sanitary air-gap waste fitting
—Courtesy Scanlan-Morris Company.

showing how possible contamination from cross connections of water supply and waste systems is prevented in water sterilizers. The sanitary air gap waste fittings on the tank drains prevent possible back siphonage by permitting air to enter the drain lines. The telltale or by-pass from the filter to the water waste line prevents water from seeping into the sterilizer tanks in event the water supply valve is leaking or not tightly closed. A sanitary air gap waste fitting is also provided on this line.

Figure 4 shows an instrument sterilizer with a sanitary fitting on the waste line and an air break fitting on the water supply line. The water supply line is brought in at an elevation above the sterilizer and the water fill bleeder permits possible leaking through the valve to be discharged direct to the drain. Any possibility of back drainage from this fixture is eliminated.

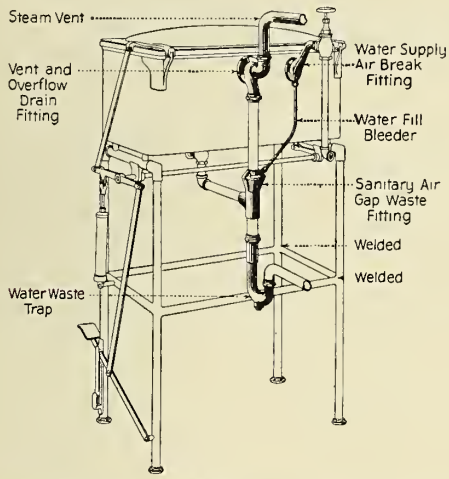

FIG. 4

Instrument sterilizer showing water supply air break fitting, water fill bleeder, and sanitary air gap waste fitting
—Courtesy Scanlan-Morris Company.

ELIMINATION OF DEFECTS IN EXISTING INSTALLATIONS

Since most of the sterilizing equipment in hospitals was installed before the recent modifications in design, defects exist which permit possible contamination from cross-connections, submerged inlets, and siphonage. Submerged inlets on instrument sterilizers may be eliminated by bringing the water supply pipe up above the rim of the sterilizer and filling from the top by means of a swing faucet. By placing a valve on the water supply line supplying the filter and tapping a small telltale line into the filter, the danger of seepage into the sterilizer tanks by leakage through the supply valve is eliminated. If there is a direct connection of the waste line to drain it should be severed and a funnel inserted below the entrance of the last fixture. The drain may then be discharged into the funnel with a gap between the tap of the funnel and the bottom of the drain line. In many cases it may be possible to insert the sanitary air gap fittings of the manufacturer of the equipment.

For complete safety all submerged inlets and direct connections to drains on all plumbing fixtures must be eliminated. This would mean that all toilet flush valves must be of an approved check and siphon breaker type, and that inlets on lavatories, bathtubs, and drinking fountains be placed above the rim. Therapeutic tubs and other fixtures which require submerged inlets should be provided with some adequate device to prevent the formation of a vacuum in the supply pipe.

DEFECTS IN STERILIZATION PRACTICE

During the past few months the state board of health has made a study of water sterilizing equipment and sterilization practice in a typical group of Kansas hospitals. A total of 54 institutions, representing a cross section of the larger and smaller hospitals of the state, were surveyed to determine to what extent the defects, which have been outlined, exist.

In four of the smaller hospitals visited the sterilizing equipment consisted of small instrument sterilizers which were filled and drained by hand. These installations were of course not subject to defects in piping. The sterilized water in these institutions was provided by boiling in separate containers. In 46 hospitals defects in the piping of the sterilizing equipment were found. The defects consisted of cross connections on the water sterilizers, submerged inlets on instrument sterilizers, or direct connection of drains to waste pipes. Only four of the institutions visited were equipped

with newly designed sterilizers in which piping defects are eliminated.

Water samples for bacterilogical analysis were collected from sterilizers at twenty institutions. These samples were mailed to the Water Laboratory for analysis, so that there was some delay between time of collection and analysis which might possibly affect the total count. It is common practice, however, to store sterilized water in the sterilizers for several hours or days before using, so it is felt that the total bacterial count of the samples as received at the laboratory closely approximates the normal condition of the water as it is used from the sterilizers.

A total of 44 samples were collected from water sterilizers and analyzed in the water laboratory. In no instance was a sample of water found to be absolutely sterile. All samples were free from organisms of the Coli-Aerogenes group, however, total counts ranged from 1 to 10,000 per cubic centimeter with a good percentage showing a total count over 100 bacteria per c.c.

Many samples with comparatively high counts were obtained from sterilizers where the utmost care was exercised on the part of the attendants to obtain a sterile water. This immediately suggests the possibility of leakage through a cross connection on the fixture, or failure to obtain an absolutely sterile water by the ordinary methods of sterilization. Further investigation along this line might indicate the need for longer periods of heating, or possibly multiple heating to destroy the more resistant spores.

In general there was a noticeable lack of care on the part of attendants in carrying through the sterilization procedure. A number of defects were noted, the principal ones being as follows:

1. Water level sight glasses—There is an almost universal failure on the part of sterilizer attendants to drain the water level sight glasses during sterilization. Tap water enters the glasses as the tank is filled but is not heated to sterilizing temperature during the sterilization process. If the water in these tubes is not drained off when the tank is heated, it drains back into the sterilizer when water is drawn from the tank, and may result in the contamination of all the water in the sterilizer.

2. Berkefeld filter—Very few hospitals make it a regular practice to clean the Berkefeld filter and dry sterilize it. In some cases the filter was found to have been in operation for over a year without attention.

3. Cotton plug filters for air inlet valves—Many instances were found where the air inlet valves at the top of the sterilizer tanks were not provided with cotton plug filters, making it possible for dust and other foreign matter to get into the sterilized water supply.

4. Lack of training—The survey indicated that the average nurse in charge of water sterilization has not received complete training or supervision in sterilization procedure. There is need for more specific training of attendants in the operation of sterilization equipment, and schooling in sterilization procedure.

SUMMARY

It has been the purpose of this paper to point out some of the defects commonly found in hospital sterilization practice. Piping connections on sterilizing equipment which make possible the contamination of sterilized water supplies with dangerous germs, should be eliminated. The most common of these defects are submerged inlets on instrument sterilizers, cross connections on water sterilizers, and the direct connection of drains to waste pipes. These are easily found and can be removed with little difficulty. Complete protection of the house water supply from possible contamination through siphonage or back drainage requires the elimination or protection of submerged inlets on all plumbing fixtures.

There is need for more specific training of attendants in the operation of sterilizing equipment and in sterilization procedure. Bacteriological analyses of water samples from hospital sterilizers suggest the need of more careful heating in water sterilization. Daily plate counts on samples from water sterilizers in all hospitals would be desirable.

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UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

The Case Against Sodium Bicarbonate

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Until the last ten years the condition known as acidosis has held the center of the surgical stage against all comers of the chemical family. Whenever a patient appeared with a dry tongue, rapid pulse and pinched facies, he was labeled a case of acidosis. This diagnosis was made by many who had no clear conception of the condition and its effect upon the organism. As a sequence of this acidosis fetish, treatment with sodium bicarbonate came into very common usage, with the same lack of clear conception of its indications and actions. This inevitably led to the use of this drug in conditions where it was clearly contraindicated. For a number of years many surgeons have dosed their patients with alkali before operation to prevent the acidosis incident to anaesthesia. The small quantities given probably in most instances had no appreciable effect except to salve the conscience of the surgeon. How much better it would have been for the patients to have received an adequate supply of water and food (especially carbohydrate) to maintain up to the hour of operation as nearly normal as possible a chemical, water and metabolic balance! A pitcher of water, a bowl of soup with crackers and a stick of candy would go farther toward preventing acidosis than a day's preoperative dosing with an alkali.

Alkalosis has raised its head in recent years and declared itself a clinical entity. Strangely enough some difficulty is frequently experienced in making a clinical differentiation between alkalosis and acidosis. A study of the blood chemistry can only give an accurate estimate of this acid-base disturbance of the body. Recent studies have taught us the diseases and conditions in which we may expect alkalosis. Without this knowledge the indiscriminate use of sodium bicarbonate or other alkalies is a reprehensible practice. The well known alkaline treatment of peptic ulcer has led to some very definite cases of alkalosis. Deaths have occurred, or have been narrowly averted, by not having full information concerning the symptomatology of alkalosis. In any prolonged alkaline therapy the alkali reserve of the blood should be estimated to control the intake of alkali.

Clinical errors are most likely to be made in the therapy of gastrointestinal diseases. This is especially true of obstructive lesions of the stomach and small intestine. Excessive vomiting produces alkalosis. This condition was undoubtedly formerly considered by most clinicians as an acidosis. It is not surprising that the surgical literature of a few years ago contained articles advocating the use of sodium bicarbonate in intestinal obstruction. Such a practice cannot be too strongly condemned. In the advanced stages of pyloric and high intestinal obstruction a marked alkalosis often exists. To treat such a condition with sodium bicarbonate could only do harm.

We have recently had a patient in the Kansas University Surgical Clinic that illustrates the importance of a knowledge of alkalosis. A man presented himself with a complaint of vomiting and kidney trouble. He gave a history that his family doctor had found albumin and blood in his urine. On the basis of this history he was first considered a case of nephritis with impending uraemia and vomiting. A closer study revealed a complete pyloric obstruction, with almost complete suppression of urine and evidence of kidney damage. A study of the blood chemistry made the condition clear. A marked alkalosis with nitrogen retention was found. The chlorides of the blood were excessively low, indicating a loss of hydrochloric acid in the vomitus. A superficial examination of such a patient might lead to a diagnosis of uraemia, with an accompanying acidosis. This patient was quickly restored to normal by large quantities of water, salt solution, glucose and a gastroenterostomy.

There are really very few instances in which sodium bicarbonate is indicated in surgery. The alkalosis and acidosis which may develop can usually be efficiently controlled by the proper administration of sodium chloride solution and glucose. A warning against the indescriminate use of alkalies in surgical conditions seems warranted at this time.

LETTERS FROM A KANSAS DOCTOR TO HIS SON

John A. Dillon, M.D.
Larned, Kansas

My dear Boy:

This is my first effort at writing you since my recent clash with the surgeon; and being my first experience of the kind I expect to dwell on the subject not a little. Your mother no doubt kept you posted during my illness. It was a very childish trick I will admit to have appendicitis at my age. In fact I had considerable difficulty in convincing myself that the fever, pain, and tenderness in the southwest corner of my abdomen was of serious moment. However after being jabbed over the sore spot by a colleague with husky thumbs I decided an operation would be less unpleasant than another examination. Your mother was favorable to this and so expressed herself. I feebly rebelled and said I appreciated everyone's co-operation but deplored the enthusiasm. Naturally one's judgment becomes warped and imagination plays pranks at such times. I even became irritated when the maid was shaking out the folds of what looked to me like a black dress. Later I discovered my error and was duly penitent. Anyway I was transported to the surgeon who punched me with his thumbs and advised some clinical assistants to do the same. This they did with due gravity and satisfaction. I am not quite sure whether or not the janitor also punched me after the others left the room but have a vague recollection that he did. I was given my choice of a spinal or general anaesthetic, and, being a cowardly old bird I chose the latter. I have no fear of ether and have no desire to listen in on the baseball scores while some surgeon is feeling around my interior with a crooked finger trying to differentiate between my gizzard, tubes and appendix. To be sure the spinal anaesthesia is safe and painless and maybe in time when the prostatic crisis arrives I will have changed my choice of anaesthetics. To me the taking of an anaesthetic was a pleasant excursion into the unknown and I had no fears.

Now on occasions of this kind I realize the statesman or the great man in any walk would utter some profound and noble sentiment such as, "I did my best I do not fear the end" or "Henry Ford still lives," "Sic Semper Paregoric." But no such glorious words thrust themselves into my consciousness. On the contrary my natural complex took charge of the situation. I am glad your mother was not present to witness my depravity. I became very loquacious and felt an impelling urge to repeat a little poem I had read a few days before. My only fear was that the anaesthetist would put me under before I could rid myself of this gem. It goes as follows:

The turtle lives between two decks,
'Tis very hard to tell its sex;
I think it clever of the turtle
In such a fix to be so fertile.

I am told that I spoke my piece all right and furnished a good share of the laughter that followed. I do not remember this as just about that time some blacksmith with a sledge hammer started pounding on a radiator close to my head and I passed out to this accompaniment. Later, after being reassembled, I found myself in my room regurgitating bile, hydrochloric acid, pancreatic juice, freeze mixture or what have you? I suppose that everybody tastes about the same on the inside but this was my first real knowledge of just how vile a mixture nature stores up for digestive purposes. I cannot leave the subject without touching on gas pains. These are diabolical breezes that circulate around one's inside after an operation, tugging at sore places and giving one the distinct impression of being inflated about fifty pounds more than necessary. Modesty prevents telling just how this situation is handled but suffice to say by divers

manipulations the clever nurse overcomes all these difficulties. In fact I became once more a babe and was so treated. While I am not prudish and have no objection to showing my stalwart frame and cute tummy in a plus four golf suit, I am reluctant in normal times to exhibit myself or to have functions meant for the privacy of the home be the subject of solicitude for beautiful nurses.

But all this false modesty banishes at such time and I learned to coo and prattle like a babe while taking my bath and having my back rubbed. I am not sure but I think they gave me a teething ring for a few days. Anyway I made an uneventful recovery and barring a tender side am well as usual. I have given you this somewhat in detail as friends here do not seem to be interested when I try to tell them of my operation. Some day I will close up like a clam and will not discuss it except with members of the family. My treatment by the nurses was so satisfactory I was of the mind to distribute a handsome tip to them. However, my Scotch thrift was so antagonistic to this I compromised by painfully assembling a bit of doggerel for their benefit. The expense of this was practically nothing.

To the Nurses—God bless 'em.
My thanks, I'd express 'em
Had I language that fitted,
Had I adequte skill.
But being a senile, bald-headed old Doctor,
I can't find the words that will quite fill the bill.
You have watched all my symptoms,
Have shared in my suffering
When gas pains in fiendish abandon prevailed;
Have tubed me with tenderness, tact and precision
When cascara and other child remedies failed.

You have rubbed my poor back
When my back needed rubbing,
Have even washed my feet when they needed it too.
Have brought me the "tin-ware" with quiet and promptness
And waited with patience until I was through.
To you, my dear nurses, I inscribe these verses.
They're crude and they lack in both metre and rhyme,
But with few brains cells working and without an appendix
You wouldn't expect very much at this time,
Would you?

Naturally I am in a very grateful mood and have no desire to criticize you boys in any way at this time. However, I expect to snoop around a bit before I write again and find something that will justify some good advice.

Love,

Dad.

P. S.—I might say that your brother's purchase of the new dress suit did not help my bearing down pains any. Has some one told him that the government has already distributed that two billion dollars?

AGE FACTOR IN ACTIVE IMMUNIZATION OF INFANTS AGAINST DIPHTHERIA

Julius Blum, New York, (J.A.H.A., May 7, 1932), undertook an investigation to determine the proper age when active immunization of infants against diphtheria should be instituted. An exceptional opportunity was afforded to carry out this work at the Home for Hebrew Infants, where the children are under observation for three or four years and can be repeatedly tested. For the past three years, on admission to the institution, all children, irrespective of age, and without a preliminary Schick test, were given three injections, one week apart, of toxin-antitoxin in 1 cc. amounts. Tests were performed at frequent intervals, varying from six months to three years after immunization, to see whether the reaction rmained negative or positive. A negative reaction was evidence of successful immunization because at the close of observation the minimum age of the children was 15 months, at which time, one would expect from 80 to 90 per cent of them to have lost their inherited passive immunity. A positive Schick test was evidence of a failure on the part of the toxin antitoxin to immunize, because in cases in which inoculation has been done when the test is positive, immunization has been successful in about 95 per cent of cases at the institution. It was noted that the response to active immunization with toxin-antitoxin was least from birth to 3 months of age (about one-third failures), and greatest from 2 to 4 years of age (about 5 per cent of failure). Of infants under 9 months of age from one-fourth to one-third failed to respond to active immunization. The tissues of the infant respond best to active immunizing measures after the passive immunity inherited from the mother is lost. Infants under 9 months of age should not receive toxin-antitoxin without a preliminary Schick test. As a public health measure, it may be advisable to provide active immunization for infants from 6 to 9 months of age, if they cannot be inoculated at another time. All children should be given the Schick test from three to six months after active immunization. This precaution is often neglected. Only 2 of the 198 individuals who died from diphtheria in New York City in 1930 had received protective immunization. The reduction in mortality from diphtheria in the large cities of the United States in 1930 compared to that of five years ago is more than 50 per cent. The authors believe it is quite possible that the intensive campaign of active immunization in New York City during the past few years has been an important factor in the lessening of the incidence of the disease by about 70 per cent.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of
The Kansas Tuberculosis and Health Association

Nothing has done more to formulate orderly conceptions out of the confusion of phthisis than Koch's discovery of the tubercle bacillus. To Laennec we owe our classified knowledge of the diverse pathological forms tuberculosis may take; to Virchow we pay tribute for his logical, mechanistic interpretation of tissue changes in disease; to numerous other workers we are indebted for valuable contributions to knowledge. But Koch gave us the Rosetta stone—the key which enables us to translate the life story of the White Plague. That was fifty years ago. Since that time ardent students have been laboring to decipher the details. We are confidently expecting the conquest of the old enemy. Koch's contribution, however, was more than the discovery of a germ. He also put precision into the new and still haphazard science of bacteriology. He invented apparatus, adapted methods of others, and established principles, which made of microbe hunting the exact science of bacteriology. To what qualities of this unpretentious doctor may we credit that achievement? Allen K. Krause, in his foreword to Pinner's recent translations of Koch's original announcement, attributes it to the homely quality of patience—patience exalted to genius.

The Genius of Koch

Early in 1876 Koch was lured away from a country practice in the village of Wollstein to the University of Bresslau, there to disclose the life history of the anthrax bacillus and to open up the study of bacteria, work with which, by Pasteur, was stirring the medical world. Five years later Koch found himself directing a new science at the Imperial Health Bureau in Berlin, fully equipped for research. Soon after the cause and nature of anthrax had been discovered, came the identification of the gonococcus, pneumonococcus and the typhoid bacillus. Smear-preparations, staining and plate-isolation methods had been devised. Ehrlich was experimenting with aniline dyes, and Koch had taken these over into bacteriology.

Koch began the search for the cause of tuberculosis in 1881. He stained known tuberculous tissue with methylene-blue and saw—nothing; at least no germs. But he "fortified" the stain with potash and then he saw within the background of tissue, certain fine blue streaks that he felt sure were "germs." That was the first step; counterstaining with Bismarck-brown was a mere detail to be worked out later.

The next step demanded the separation from the morbid tissue of the extrinsic blue streaks; that is, the isolation of the germ. Here he struck another snag. Cultivation on a solid medium was necessary. Gelatine, the good old stand-by for ordinary germs would not work. But Koch was an adapter, never hesitating to use methods of other men. Tyndall, a British physicist, interested in the age-long controversy of spontaneous generation, had exposed surfaces of coagulated serum to high altitudes in the Alps in order to catch the minutest particles of living matter. There can be no doubt that when the gelatine medium failed him, Koch lost no time in "borrowing" Tyndall's medium. Again he met with success. Inoculated surfaces displayed minute points of roughening. With a platinum needle, he transferred a bit of the matter to a slide, made of smear, stained it and then saw the gracile blue rod-like forms, which he had so often before seen in tuberculous products. The continuance of the original pure culture by repeated transferrence of fresh media was easily accomplished and carried out far enough to satisfy the most severe critic.

But would these artificially cultured germs actually produce tuberculosis in animal tissues? To prove that was the third step. In his paper he described accurately and without unnecessary detail the procedures and results which proved the virulence and specific effect of those first tubercle bacilli. He cited his experiments on animals with such surety that no skeptic could further doubt. And finally he succeeded in

finding again the identical tubercle bacilli in the artificially produced tubercles. The chain of evidence was complete.

KOCH'S PROOF IMPREGNABLE

Koch presented his first announcement before the Berlin Physiological Society on March 24, 1882. Why a physiological, rather than, say, a pathological society or an organization for infectious diseases or internal medicine?

"The reason is known," says Krause. "It sprang from Virchow's attitude on phthisis and its nature. The dean of cellular pathology, and indeed of world medicine, was then in no mood to listen to proof that consumption, tuberculosis, scrofulosis, *Perlsucht,* were the product of essentially one and the same specific agent;—much less was he ready to lend a hand toward encouraging heresy aimed at dogma that, more than anyone on earth, he himself had formulated and imposed upon medical thought. For thirty years and more he ingrained the latter with the duality of phthisis and the nonspecificity of consumption and tuberculosis, which must, according to him, be regarded as two separate, though commonly associated, morbid processes."

Koch spoke his piece under odd auspices. Every hearer speculated on what Virchow would say. But in Koch's impregnable argument he could find no flaw. The Chairman called for discussion. There was none. So spellbound was the audience that they even failed to applaud. For the first time in the history of the Society no one arose to offer at least a prefunctory comment.

The discovery of the tubercle bacillus marked the pinnacle of Koch's career. By adopting and adapting methods he had put into everyone's hands a method of simplicity and accuracy applicable to no end. "Within a few years Koch had snatched the vast hidden world of bacteriology from the 'Chaos' to which hopeless Professor Cohn had once consigned them."

Scientific workers have marvelled at the enormous task Koch performed in so short a time. It was necessary for him to spend time in trial of his older standard methods before discarding them. Moreover, as we now know, the tubercle bacillus is one of the slowest-growing of bacteria. With an experience of years behind him Koch had never come across a germ that would not become visible to the naked eye within two or three days after the implantation of the material within the culture tube. At the end of the first week his inoculated tubes remained unchanged. Twenty days passed before there was the least sign of growth.

In its staining qualities, too, the tubercle bacillus is different from other bacilli known to Koch. He did not give up when the ordinary methods employed at that time failed but so modified the dye that it did penetrate the bacillus he was hunting for.

Was Koch a genius? Like Edison he was a persistent experimenter. An active imagination suggested the objective and by repeated trial and error he found the way. He never hesitated to use and adapt the methods of others. He was ingenious in inventing methods of his own. But primarily his was the genius of patient waiting. Though past experience gave him no justification for waiting, he persisted in his heart-breaking vigil and in waiting, won out.

The Aetiology of Tuberculosis, Doctor Robert Koch; Translation by B. and M. Pinner. Amer. Rev. of Tuberc, March, 1932.

Koch's Original Paper Translated

Koch's original paper *Die Aetiologie der Tuberkulose* was published in German a few weeks after the historic meeting of the Physiological Society. The better-known paper under the same title did not appear until 1884 and this was a greatly expanded dissertation on the tubercle bacillus. The fiftieth anniversary of the discovery of the bacillus prompted Dr. and Mrs. Max Pinner to make an English translation of the original essay. This was published in the March, 1932, American Review of Tuberculosis, and, together with illustrations and a foreword by Allen K. Krause (from which the above abstracts have been derived) was reprinted in attractive booklet form. This booklet may be obtained through tuberculosis associations.

THE PHYSICIANS LIBRARY

Growth and Development of the Child, Part III, Nutrition. Report of the committee on growth and development of the White House Conference on Child Health and Protection. 501 pp. $4.00. The Century Company, New York and London, 1932.

No more important contribution could be made to the knowledge of children's health needs than a thoroughgoing study of nutrition in relation to growth and development. Such a study was conducted for the White House Conference on Child Health and Protection as part of the activities of the committee on growth and development under the chairmanship of Dr. Kenneth D. Blackfan. The results of this study, which involved an examination of a vast amount of information gathered from observation and measurement of many individuals, from experimentation in the laboratories of Europe, the Orient, and the United States, and from the available literature on the subject, are presented systematically and fully in this the third part of the committee's study of the growth and development of the child.

Nutrition implies "a study of the food substances and of the biochemical processes which utilize them." This book, therefore, contains both an analysis of the components of diet and an account of the intricate chemistry of the body. The topics of discussion range from an appraisal of the national food supply to the feeding habits of children and the psychological facts in nutrition.—E. G. B.

The Way of Health Insurance, by A. M. Simons and Nathan Sinai, M.D., a publication of the committee on the study of dental practice of the American Dental Association. Cloth cover, 209 pp. The University of Chicago Press, Chicago, Ill. Price $2.00.

With 20 to 30 per cent of the sick in the United States not at present receiving adequate medical care, some form of compulsory health insurance is almost certain to be adopted for these people, according to the authors, who have just concluded a two-year investigation of the situation in this country and abroad.

"Health insurance," they state, "is neither a panacea for all preventive and public-health problems, nor the bureaucratic state medicine so abhorrent to the other extremists. Notwithstanding the many faults and deficiencies of the various systems, no country that has ever tried compulsory health insurance would be willing to go back to pre-insurance days, and notwithstanding their conflicts with its policies, there is practically no opposition in the medical professions of any insurance country to the principles of insurance. Nor has any dental association in any insurance country ever officially condemned the system of insurance."

"Their report," states Dr. Herbert E. Phillips, chairman of the committee on the study of dental practice, "will serve as a warning to the physicians and dentists of this country that if they do not take a hand in formulating the policies of any insurance system that may be installed in the United States, the profession may find themselves in conflict with its practices when it is too late."—E. G. B.

Nutrition Service in the Field, Child Health Centers: A Survey. The findings and recommendations of two subcommittees on the committee on medical care for children of the White House Conference on Child Health and Protection. $2.00. The Century Company, New York and London, 1932.

The first part of the book is devoted to the report of the subcommittee on nutrition. This report is a study of nutrition work, a relatively new activity in the general program for child health and protection. It explains what has so far been accomplished, reveals the need for nutrition education, makes definite recommendations for raising services to the required standard, and describes the work of outstanding nutrition services for children in different parts of the country.

The second part of the book is devoted to the report of the subcommittee on child health centers. This report includes a review of an extensive survey of child health centers, a list of health centers in the United States and its possessions, an account of the nature and scope of the work of these centers, and the recommendations of the subcommittee for improving and extending this important part of child welfare work.—E. G. B.

(Continued on Page 224)

JAMES D. COLT, Sr., M.D., MANHATTAN
President-Elect Kansas Medical Society, 1932

THE JOURNAL
of the
Kansas Medical Society

EARLE G. BROWN, M.D. - - - - Editor

ASSOCIATE EDITORS—L. B. SPAKE, E. C. DUNCAN, O. P. DAVIS, J. T. AXTELL, J. F. GSELL, C. C. STILLMAN, ALFRED O'DONNELL, H. G. HARDESTY, I. B. PARKER, C. H. EWING, W. F. FEE.

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LIST OF OFFICERS—President, P. S. Mitchell, Iola; Vice President, J. D. Colt, Sr., Manhattan; Secretary, J. F. Hassig, Kansas City; Treasurer, Geo. M. Gray, Kansas City.

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EDITORIAL

THE ANNUAL MEETING

The 74th Annual Meeting of the Kansas Medical Society has now passed into history. It was a successful meeting, although the attendance was not as large as had been expected. The registration was slightly less than 350, approximately 25 per cent of the membership of the society.

Whatever was lacking in attendance was made up in interest, as the program was unusually good. With one exception, the papers were presented as scheduled in the printed program. The discussions were concise and added much to the value of the papers as presented by the essayists.

The presentation by Dr. H. H. Shoulders of Nashville, Tennessee, one of the guest speakers, was timely and of unusual interest to all members of the profession who were present. Dr. Shoulders provides in his proposed program for the hospitalization of veterans, a plan that is feasible and deserves the serious consideration of every person. His paper appears in this issue of the JOURNAL.

As usual, the business of the society occupied considerable time. The Tuesday evening session did not end until after eleven o'clock, and the Thursday morning session occupied almost the entire morning. It would seem for the best interests of all some plan should be devised whereby the second meeting of the House of Delegates would not conflict with the scientific session. Although many suggestions have been made in the past, none have as yet been presented that will solve the problem.

Dr. J. D. Colt, Sr., of Manhattan, was named as president-elect, and Dr. J. F. Gsell, of Wichita, as vice president. Doctors J. F. Hassig and George M. Gray, of Kansas City, were elected to succeed themselves as secretary and treasurer, respectively. All of these officers are well qualified to serve in the capacity to which they were elected.

Dr. R. T. Nichols, of Hiawatha, was named as councilor for the First District, to succeed Dr. L. W. Shannon, of Hiawatha, deceased. Dr. H. N. Tihen, of Wichita, was named as councilor of the Sixth District to succeed Dr. J. F. Gsell, of Wichita, who previously had been named as vice president. Dr. O. P. Davis, of Topeka; Dr. J. T. Axtell, of Newton; Dr. H. O. Hardesty, of Jennings, and Dr. C. H. Ewing, of Larned, were re-elected as councilors of the Fourth, Fifth, Ninth and Eleventh districts, respectively. Dr. O. P. Davis was re-elected as a member of the defense board.

The proceedings of the House of Delegates, in part, as reported by Secretary Hassig will be found on succeeding pages.

MORTALITY OF CHILDREN OF THE SCHOOL AGES

The six most important causes of death among children of 5 to 19 years of age are accidents, tuberculosis, heart diseases, pneumonia, diphtheria and appendicitis, according to a report of the United States Public Health Service which analyzes the mortality occurrence for this school-age period. The mortality from 5 to 19 years is only a fraction of what it is under 5 years or among old people. The age curve of mortality has a minimum at 10 to 14 years of age. The mortality of girls 5 to 19 years of age is 15 per cent less than that of boys.

In the twenty-seven year period from 1900 to 1927, the death rate from all causes among children 5 to 19 years of age in the original registration States decreased 44 per cent. Respiratory tuberculosis shows a more or less steady decline throughout the period.

The mortality from diseases of the heart has increased slightly. Nephritis of both acute and chronic types has already decreased since 1900, the trend being in marked contrast to what has occurred among persons of all ages. Diabetes increased slightly from 1900 to about 1922, but from 1923 to 1927 the rate has been little more than half of what it was prior to that time. Appendicitis has increased gradually.

The death rate from accidents of all types among children 5 to 19 years of age has increased slightly since 1900, and this increase has been due to the increase in the number of deaths of children from automobile accidents.

HITS TRAVELING DOCTORS

Physicians are usually good citizens of their home communities; their work is such that they come in contact with a very large cross section of their communities and their relations with the public are usually of the best. They are taxpayers, supporters of home institutions, frequently serving in many capacities, such as school board members, etc. Their work is personal, and they are prominent in the community life. Yet the public frequently consults traveling, fly-by-night quacks who live off the credulity of those who are not informed and capable of judging the merits of a competent physician. The traveling physician whether qualified or not, and most of them are not qualified, takes high fees out of every community which he enters and usually gives little or no relief to his patients; the money paid for such services never returns to the community and further of the communities he visits. It's the old story over again for the community as a whole gets no benefits and those who serve the community unselfishly and continually through all sorts of weather and carry accounts for patients who are hard up, for many years, are the losers from the patronage given the traveling doctor who returns nothing to the community and little to the individual patient for the exorbitant charges usually made.

Justice Smith of the state supreme court, has recently written a decision that hits the traveling doctor squarely; not only is the matter of licensing upheld strictly but municipalities are given the power to tax such "travelers" by an occupation tax; in a neighboring city some three or four years ago this occupation tax was not upheld but the recent supreme court decision will enable local governing bodies to enforce such a tax, making it high enough to keep this class of traveling doctors out of the community; local physicians now have an opportunity to get busy if they so desire.—Editorial, Garden City Telegram.

EDITORIAL COMMENT

According to a chemist at Ohio State University, a family requires about forty different kinds of food items in its diet if it is to keep physically fit.

Dr. William P. Murphy of the Harvard Medical School (*Jour, A.M.A.*, March 26, 1932) reports excellent results in the treatment of 30 patients with pernicious anemia, by means of liver extract administered parenterally.

Dr. E. R. Blaisdell in the *Maine Medical Journal* for January, 1932, reports favorable results in the treatment of corrosive sublimate poisoning with large doses of sodium thiosulphate intravenously. Ten cases were included in the report, with recovery in every case.

Following an analysis of early returns of the 1930 census of workers, the opinion of the committee on the grading of nursing schools is that training schools must curtail the steady production of more nurses or the morale of the nursing profession will break down completely.

In the death registration area of the United States: "The tuberculosis mortality rates from 1900 to 1917 declined 1.7 per cent a year on the average. After the influenza pandemic of 1918 the rate dropped abruptly from 151.0 to 94.1. Since then it has continued to decline at an average of 3.6 per cent a year. By the year 1940 the rate is expected to reach the low figure of 39."

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PROCEEDINGS OF THE 74th ANNUAL MEETING

Kansas Soldiers and Sailors Memorial Building, Tuesday, Wednesday and Thursday, May 3, 4 and 5, 1932.

MEETING OF THE HOUSE OF DELEGATES

The House of Delegates met in Trembly Hall, third floor, Soldiers' and Sailors' Memorial Building, May 3 at 7:40 p. m. The meeting was called to order by the president, Dr. P. S. Mitchell. On motion by Dr. C. C. Stillman, regularly seconded and carried, the minutes of the 1931 meeting were not read having previously been published in the Journal.

SECRETARY'S REPORT

To the House of Delegates of the Kansas Medical Society:

I desire to submit the following report for the year ending May 1, 1932:

Financial Statement

Balance on hand May 1, 1932:		
Medical Defense	$10,057.55	
General Fund	7,885.54	
		$17,943.09
Cash received from all sources for the year ending May 1, 1932:		
Dues from members	$ 9,282.00	
Interest reported by Treasurer	200.61	
		$ 9,482.61
		$27,425.70
Expended for the year ending May 1, 1932:		
Medical Defense	$ 1,812.84	
General Fund	6,664.99	
Total expenditures		$ 8,477.83
Balance on hand May 1, 1932		$18,947.87
Standing of funds May 1, 1932:		
Medical Defense	$10,896.71	
General Fund	8,051.16	
		$18,947.87

We feel that the Kansas Medical Society has every cause to be encouraged over the condition of its affairs.

While there has been some decrease in the membership this year we are not in the least discouraged for in looking over the report of the Secretary of the American Medical Association, we find that this same condition exists in over two-thirds of the state medical societies and that all of our neighboring states' medical societies have had a decrease in their membership.

According to the American Medical Association statistics there are now 2,168

physicians in Kansas which is close to 400 less than there were ten years ago. This number includes the eligible and ineligibles, active and retired members of the profession and medical officers stationed at the United States army posts. No doubt there are many eligible physicians who are not affiliated with this organization who would make desirable members and it is toward these men that we should direct our earnest efforts and bring them into the fold if possible.

We feel that every effort should be made to bring into membership physicians who would add to the strength of medical organization but on the other hand it would impair the strength of our county societies and lessen their helpful influence should we take into membership men whose moral and professional qualifications are not of a high order and who lack proper regard for the ethics and ideals of the profession.

We have 105 counties in Kansas with but 60 component societies, five of which are district societies. These various organizations furnish opportunity for membership to physicians in practically every county in the state and we can see no reason why some organized and properly directed effort should not eventually bring all eligible men into membership in the nearest, or most convenient society.

We trust you have given the program the once over and that it merits your approval; also that you will find it both interesting and instructive. It is owing to the prompt co-operation of the local secretaries that we were able to assemble these valuable papers, complete the program and have it in the printer's hands some days earlier than of any previous year.

We wish to thank the secretaries for their helpfulness and also to thank the members who have contributed so generously toward the program.

To Dr. Mitchell, our president, we wish to express our appreciation for his assistance in all matters pertaining to the society during this year of service.

And lastly, though with no less degree of appreciation do we tender our thanks and those of the Kansas Medical Society at large to these honored guests who have so materially contributed to the success of the program of this, the 74th meeting of the Kansas Medical Society.

Respectfully submitted,

J. F. Hassig, Secretary.

On motion regularly seconded and carried, the report was accepted and filed.

TREASURER'S REPORT

To the House of Delegates of the Kansas Medical Society:

As treasurer of your society, I herewith submit the following report. Cash on hand May 1, 1931, $17,943.09, of this amount $10,057.55 belongs in the defense fund and $7,885.54 to the general fund. Cash received from the secretary during the year $9,282.00, interest from liberty bonds $200.61, making a total of $27,-425.70.

Expended during the year from the general fund $6,664.99 and from the defense fund $1,812.84, leaving a balance on hand May 1, 1932, of $18,947.87. Of this amount you have $11,000.00 in government bonds which are registered in the name of Geo. M. Gray as treasurer or his successor. On March 29, 1932, I purchased five $1,000.00 United States bonds for which I paid $4,644.55. These bonds have increased considerably in value since they were purchased and I think should be worth par by the time you want to dispose of them.

Vouchers against the general fund No. 307 to No. 337 inclusive and vouchers against the defense fund No. 151 to No. 168 inclusive are herewith submitted.

General Fund

Date	No. of Voucher	To Whom Drawn	Amt.
May 7, 1931	307	Wareham Hotel	$ 31.00
May 12. 1931	308	W. E. McVey	2,000.00
May 12. 1931	309	J. F. Hassig	1,399.55
May 12. 1931	310	B. R. Riley	9.04
May 26, 1931	311	Jennings C. Litzenberg	66.04
May 26, 1931	312	Effie E. Gillispie	10.00
July 13, 1931	313	Amer. Med. Ass'n	12.00
July 15, 1931	314	W. E. McVey	500.00
July 15, 1931	315	Kansas Cham. of Com.	150.00
Aug. 11, 1931	316	Geo. M. Gray	14.42
Sept. 22, 1931	317	W. E. McVey	720.00
Sept. 23, 1931	318	E. C. Duncan	14.40
Nov. 6, 1931	319	Rosemary Gardens	15.00
Jan. 5, 1932	320	H. O. Hardesty	42.00
Jan. 5, 1932	321	J. F. Gsell	27.82
Jan. 5, 1932	322	E. C. Duncan	20.80
Jan. 5, 1932	323	W. F. Fee	40.00
Jan. 5, 1932	324	P. S. Mitchell	17.88
Jan. 5, 1932	325	C. H. Ewing	37.45
Jan. 5, 1932	326	I. B. Parker	38.00
Jan. 5, 1932	327	W. S. Lindsay	8.00
Jan. 5, 1932	328	J. T. Axtell	24.36

Jan.	5, 1932	329	C. C. Stillman	16.00
Jan.	6, 1932	330	J. F. Hassig	700.65
Jan.	8, 1932	331	O. P. Davis	7.90
Jan.	14, 1932	332	Amer. Med. Ass'n	14.50
Jan.	22, 1932	333	Earle G. Brown	607.60
Feb.	2, 1932	334	Evans Press	12.00
Mar.	2, 1932	335	Kansas Bankers' Ass'n	7.50
Apr.	7, 1932	336	St. Louis Button Co...	20.58
Apr.	27, 1932	337	Evans Press	80.50

Defense Fund

Date		No. of Voucher	To Whom Drawn	Amt.
May	12, 1931	151	O. P. Davis .....$	75.00
May	12, 1931	152	J. D. M. Hamilton....	82.50
June	17, 1931	153	J. D. M. Hamilton....	75.00
July	13, 1931	154	O. P. Davis	75.00
Aug.	7, 1931	155	J. D. M. Hamilton....	153.60
Aug.	7, 1931	156	O. P. Davis	5.00
Aug.	7, 1931	157	Chautauqua Press ...	2.50
Sept.	15, 1931	158	J. D. M. Hamilton....	75.00
Oct.	6, 1931	159	J. D. M. Hamilton	169.50
Oct.	6, 1931	160	Amer. Med. Ass'n.....	7.00
Nov.	6, 1931	161	O. P. Davis	75.00
Nov.	24, 1931	162	J. D. M. Hamilton....	75.65
Dec.	18, 1931	163	J. D. M. Hamilton....	200.40
Jan.	13, 1932	164	J. D. M. Hamilton....	270.60
Feb.	1, 1932	165	O. P. Davis	75.00
Feb.	16, 1932	166	J. D. M. Hamilton....	104.20
Mar.	26, 1932	167	J. D. M. Hamilton....	205.75
Apr.	11, 1932	168	J. D. M. Hamilton....	86.14

You have certain fixed expense that must be taken care of out of the general fund. Secretary's salary $1,000.00, secretary's stenographer $900.00, publication of the Kansas Medical Journal $2,000.00, publication of "Folks" $1,850.00, memberships in the State Chamber of Commerce $150.00, mid-winter meeting of the Council $285.15, expense annual meeting $196.58, total $6,096.00.

The standing of the funds at this time, May 1, 1932, in the medical defense fund $10,896.71, general fund $8,051.16.

Respectfully submitted,

Geo. M. Gray, M.D., Treasurer.

On motion regularly seconded and carried, the report was accepted and filed.

Dr. O. P. Davis made a motion which was regularly seconded and carried that the reading of the councilor's reports be dispensed with and that the reports be handed to the secretary to be incorporated in the minutes.

COUNCILORS' REPORTS

First District:

Owing to the death of Dr. L. W. Shannon, councilor, no report was made.

Second District—To the House of Delegates:

I beg to submit the following report of the second district. The second district has had a very successful year. The outstanding accomplishment was the entertainment of the Kansas Medical Society, by the Wyandotte County Medical Society, where a great deal of work was done by the local members in the presentation of scientific exhibits. I hope it may be permanent at our regular state meetings.

Respectfully submitted,

LaVerne B. Spake, M.D., Councilor.

Third District—To the House of Delegates:

The third district appears to be everywhere in good condition. I have had the pleasure of meeting with all the county societies since January 1 with the single exception of Elk County; I have made repeated efforts but could not arrange to meet with them. However, they have an organization, but should meet with some other county. Early in February we had a four county meeting at Iola-Allen, Woodson, Neosho and Wilson. February 19, Crawford, Cherokee and Labette held a joint meeting at Pittsburg, with physicians from Iola and Chanute present. At both these meetings your councilor made a short talk on the Shoulders resolution in accordance with instructions from our president, Dr. P. S. Mitchell. I attended a meeting of the Montgomery County Medical Society at Independence, several of the physicians from Sedan being present. It appears Chautauqua County has no sufficient number of physicians to keep up an active organization, but they will hold membership in adjoining counties, mainly Montgomery.

All the county societies brought the Shoulders resolution to the attention of their local American Legion posts. It was my privilege to discuss this resolution befort the Fredonia post, also the Neodesha post. Dr. F. W. Shelton and myself addressed a large gathering of Legion men at Independence. The rank and file of the Legionnaires were favorable to the resolution.

The old Southeast Kansas Medical Society held its first meeting in several years at Chanute April 20, and another meeting billed for Fredonia late in May. Our territory is the entire third district plus Bourbon county, and I think will do much to promote organized medicine in this part of the state.

Respectfully submitted,
E. D. Duncan, M.D., Councilor.

Fourth District—To the House of Delegates:

This district is composed of seven counties, as follows: Shawnee, Wabaunsee, Geary, Osage, Morris, Lyon and Chase. There are, however, only two societies in the district, viz., Shawnee and Lyon. These two societies draw membership not only from the counties whose names they bear, but also from the adjacent counties, some of which are outside of the district. In this way the members enjoy the advantages which naturally come from belonging to a larger and stronger society instead of to a weak and inefficient one.

The Lyon County Society has a membership of 43. They are derived by counties, as follows: Lyon, 26; Osage, 1; Chase, 5; Greenwood, 6; Morris, 5; no members have been gained during the past year. Three members have been lost during the year; 1 by transfer, 1 by removal and 1 by suspension. None has been lost by death. There have been 10 regular meetings and 1 special meeting, in the form of a picnic. The average attendance at the meetings was 23. The society has had 4 guest speakers on the programs. Thus it will be seen that this society is in its usual healthy condition, and needs no stimulation of any kind. It is manned by the following officers: President, Dr. Fred Lose of Madison; vice president, Dr. P. W. Morgan, of Emporia; secretary-treasurer, Dr. C. E. Partridge, of Emporia. The society takes care to keep good officers in charge and its members lend their loyal support.

The Shawnee County Society is composed as follows, by counties: Shawnee, 115; Jefferson, 7; Osage, 7; Wabaunsee, 4; Pottawatomie, 3; Jackson, 1; total, 137. This society is perhaps the largest in the state, in membership. It has never been more active and progressive than during the past year. The society has gained 3 new members, by application and 1 by transfer. It has lost 2 by suspension, 1 by removal and 6 by death, 4 of whom were most conspicuous and active members, viz., Van Horn, McVey, McGuire and Litsinger. There have been held 8 reguler meetings and 1 social meeting, or picnic. No meetings are held in the three hot months. The average attendance at the meetings was 56.3. At the annual meeting in December, the attendance was 96. There have been 5 guest speakers during the year. The society is very social, and has frequent dinners preceding the programs. The officers are Dr. W. F. Bowen, president; Dr. Marvin Hall, vice president; Dr. Milton B. Miller, treasurer; Dr. Earle G. Brown, secretary. The society has always had a devoted and efficient staff of officers, and the success of the organization is largely due to this fact.

O. P. Davis, M.D., Councilor.

Fifth District—To the House of Delegates:

I am glad to report that I have visited practically all of the county medical societies in my district and that they are in satisfactory condition. Membership in the societies and attendance at meetings has been very good.

Fraternally yours,
J. T. Axtell, M.D., Councilor.

Sixth District—To the House of Delegates:

The different societies in the sixth district have been holding regular meetings and as far as we can learn have been having good attendance.

The Sedgwick County Medical Society has been especially active, having employed a full time secretary and issues a monthly bulletin covering the society's activities.

We believe the work of this society has been a stimulus to the other societies of this district. No complaints have been registered. We feel that medical society work in this district is on a better basis than it has been for years.

Respectfully,
J. F. Gsell, M.D., Councilor.

Seventh District—To the House of Delegates:

Requests for reports were sent to seven out of the eight counties in the district and received reports but from three. Rooks county maintains no organization.

Clay county maintains an enthusiastic

organization, most of the physicians in the county belonging in spite of the fact that the dues are higher than in any other county in the district. They missed only one meeting during the year, except the ones during the hot summer months when no meetings are attempted. Their programs have been varied and excellent. They meet once each year at Junction City with Drs. Carr and Smiley who both are excellent and enthusiastic members of the Clay County Society. Dr. Carr even now is the president of the Clay County Society, Geary county being not organized. Even more members of the profession in Geary should, under the circumstance, unite with some neighboring society, much to the advantage of both the society and to themselves.

Dr. Martha Madtson gave an excellent outline of the society's doings in Mitchell county. In fact, Dr. Madtson always does give an excellent as well as prompt report. They have ten active members in their society. They have monthly meetings and these are worth while. Dr. Brewer of Minneapolis has recently joined the Mitchell County Society, the Ottawa County Society having disbanded.

Republic County through their secretary, Dr. H. E. Robbins, reports ten meetings during the past year. This we consider a most excellent showing since only a short time back their society was comparatively not having any regular meetings.

We also received the usual prompt reply to our communication to Dr. S. J. Schwaup of Osborne county. Dr. Schwaup reports that they have six paid up members in the state society, with one new one promised. But Dr. Schwaup cannot be held in any way responsible for not sending in a "promise." They really do have, out there, many things that are most discouraging toward keeping up an active organization.

There seems to me to be little legitimate excuse, however, for the counties in which organized, and in certain cases, well organized hospitals are maintained to not have a well conducted county medical society; a rather good problem to be taken up with and at the meetings of the American Medical Association.

Some complaint has been made from some points in my district about the state dues. Why have they not been lowered? I'm sure that this question has been asked sincerely and most honestly and with no thought of parsimony in mind. How best to answer the queries I am at some loss to know. I fully understand how, where, and why the money goes, and how well and frugally our money not only has been watched, but is being watched and guarded. Whether a detailed explanation beyond the usually detailed reports should appear in the Journal is a question. Perhaps personal communication should be made. I trust that those who may see this and who have put the question to me will write to me again. I will be most glad to take the matter up farther, through the columns of the Journal providing that it seems expedient, and if not, if you will but have due patience by personal communication. Please remember, I do not afford a secretary nor even a stenographer.

Sincerely and respectfully submitted,
C. C. Stillman, M.D., Councilor.

Eighth District—To the House of Delegates:

I beg to submit the following report of the eighth district comprised of the counties: Saline, Ellsworth, Ottawa, Dickinson, Lincoln.

Saline County Medical Society: Number of members, 35; physicians in county, 37; physicians in county eligible but not members, 5; meetings held monthly, society active. New members from Ottawa county during year, 4.

Ellsworth County Medical Society: Number of members, 8; physicians in county, 8; physicians in county eligible but not members, 0. Meetings held quarterly, Central Kansas Medical Society.

Ottawa County Medical Society: Physicians in county, 6; have surrendered their charter. Four members have already joined the Saline County Medical Society, two remaining expect to join nearby medical societies.

Dickinson County Medical Society: Number of members, 20; physicians in county, 23; physicians in county eligible but not members, 1. Meetings held third

Thursday, January, April, July and October.

Lincoln County Medical Society: Number of members belonging to some society, 6; physicians in county, 7; physicians in county eligible but not members, 1. Meetings held quarterly.

Respectfully submitted,
ALFRED O'DONNELL, M.D., Councilor.

Ninth District—To the House of Delegates:

Our district has two county medical societies; the Decatur-Norton County Medical Society and Smith County Medical Society.

The Decatur-Norton County Society is an active society having thirty paid-up members. We hold meetings regularly on call of president and secretary. We suffered the loss of one member by death during the past year, Dr. E. D. Beckner of Hoxie, Kansas.

The Smith County Society is an inactive society and has only one paid-up member according to the report of their secretary, Dr. Victor E. Watts. I have not received any notices of meetings held by them but shall attend should they make arrangements for a meeting.

Respectfully submitted,
H. O. HARDESTY, M.D., Councilor.

Tenth District—To the House of Delegates:

The Tenth District is comprised of eight counties. It has one active medical society, the Central Kansas Medical Society. Members are not confined to the physicians of the eight counties alone. Many members are from the surrounding counties and take an active part in the society programs and discussions.

The meetings of the society are held quarterly at Hays and Ellsworth, occasionally a meeting at Russell. St. Anthony's hospital at Hays and the hospital at Ellsworth furnish clinical material and meeting places. There is always a feeling of good fellowship.

This year there have been no complaints brought to my attention of unethical conduct by any member of the society. There have been some complaints about the conduct of some of the non-member doctors.

I am glad to say that the younger members of the profession are taking a more active interest in society meetings than they did last year. Among some of the older non-members there seems to be some evidence of resentment and narrowness. This may be due to the personality of the individuals themselves or to the depressive financial conditions.

I am quite sure that the financial conditions and collections of the doctors in this district will compare favorably with other districts in the state—we have all been obliged to do much charity work and the physician has been compelled to do much more than his share.

To the officials of the Central Kansas Medical Society, to the local physicians who have been on the committees of entertainment and to St. Anthony's hospital and the hospital at Ellsworth, I wish to extend the thanks of the district for their interest and efforts.

Respectfully submitted,
I. B. PARKER, M.D., Councilor.

Eleventh District—To the House of Delegates:

The report of the Eleventh District of the state medical society is of necessity brief.

The western part of this district is composed of thinly populated counties in the western part of the state in which there are not enough doctors to maintain societies in each county. However a majority of the doctors in these counties belong to the societies in adjacent counties.

There are three societies functioning in the district. Barton, Pawnee and Rush-Ness. Of these the most active are the Barton and Rush-Ness societies. While Pawnee has one hundred per cent membership of the eligible doctors in the society, its meetings are irregular.

Barton county has a unique plan of supporting its county society which enables them to have regular meetings and provide expenses. There is an arrangement whereby the county health officer and county physician is combined in one appointment by the county commission-

ers, this one doctor doing the work of county health officer as provided by law but the county poor work is done by all members of the society and the check from the county is turned into the fund of the county medical society. The county health office is passed around among the membership, each doctor serving one year. This arrangement has proven very satisfactory in Barton county.

Respectfully submitted
C. H. Ewing, M.D., Councilor.

Twelfth District—To the House of Delegates:

Owing to circumstances which could not be avoided, I am late with my report. My report will be rather brief as I do not have anything new or startling to give you in it.

Have visited the Meade-Seward Medical Society several times in the past year, also the Ford Medical Society. Both of these societies are in flourishing condition and growing. I have not visted the Finney County Medical Society this year but have planned to do so when something always came up to prevent me doing it. I understand that they are getting along O. K.

Things generally are very dull in this part of the state being largely an agricultural district and prices of wheat, hogs and cattle and all farm products are so low that the farmer cannot make any money; hence, the poor doctors have to suffer along with them.

Respectfully submitted,
Wm. F. Fee, M.D., Councilor.

(Continued in July Journal)

NATURE'S METHOD
of Combating Intestinal Putrefaction

Change the flora by providing the right soil with a food —
LACTO-DEXTRIN
(Lactose 73% — dextrine 25%)
Promotes the growth of normal protective germs.
Samples and literature on request.
The Battle Creek Food Co.
BATTLE CREEK MICHIGAN

THE LABORATORY

Edited by
J. L. LATTIMORE, M.D., Topeka

This page for this month will be devoted to some of the more important and interesting papers presented before the American Society of Clinical Pathologists and the Pathological Section of the American Medical Association at the New Orleans session. These papers will appear during the coming months in the Journal of the American Society of Clinical Pathologists and the Journal of the American Medical Association.

J. H. Black of Dallas, Texas, read a paper on the ten principles upon which the practice of allergy is based. He specially stressed the fact that to do satisfactory work in allergy, requires much determination and willingness to go into every detail and spend much time on each individual case. Intra-dermal testing is required in many cases but should never be attempted in any case until after failure to obtain a positive reaction by the scratch method. Many cases are classified as allergy which in reality are cases that show some definite organic lesion as determined by the physical examination.

A. G. Foord of Pasadena, California, presenting a paper on the laboratory diagnosis of tuberculosis meningitis brought out one very important point. Several of his cases had cell counts above 1,000 cells per cubic millimeter. It is commonly considered that if the fluid is turbid, the case is of pyogenic origin. His work clearly proves we should search further in such cases, when we are unable to locate pyogenic bacteria. His method is the same as is in common use; centrifuging the spinal fluid, pouring off the supernatant fluid and using the sediment for direct smear and guinea pig inoculation. In another paper, Dr. Foord discussed the agglutinin content of blood following typhoid and paratyphoid immunization. He stated agglutinins were found commonly for two to five years and in one case, definite agglutinins were found nine years following immunization.

Papers presented by Dr. F. E. Sondern, another by Dr. H. L. Heinhart of Columbus, Ohio, on the Friedman and the

Asheim-Zondek test for pregnancy show a very close parallel of the two tests. Young female rabbits were used in the Friedman test, while young, female mice were used in the Asheim-Zondek. The test was found to be accurate in about 98 per cent of cases. Pregnancy was determined in some cases as early as the fourth day following the first missed menstrual period. There were three cases of diagnosed tumor of the anterior pituitary in the male, by use of this test. These tumors are the only type that will give a positive reaction to the Friedman test from male urine. The urine should not be catheterized as a rubber reaction kills many animals. Collect a morning specimen of urine in a clean container. In the laboratory, this urine is centrifuged before injection into the ear vein of the rabbit. At the end of 48 hours, post-mortem examination of the ovaries is made. In some laboratories, a second injection of 10 c.c. of urine is made the second day.

There was a symposium on: "Should the Precipitation Test for Syphilis be Adopted to the Exclusion of the Complement Fixation Procedures." After considerable discussion, it was agreed that we should not exclude the complement fixation test but should perform both on each sera.

Two papers on the liver function tests of the different dyes revealed little information from a diagnostic standpoint, both tests being dependent upon jaundice. However, very definite information may be obtained from the use of any of the tests from a standpoint of liver efficiency and the test has very definite value from a prognosis angle, in surgical cases.

Dr. Russell Haden of Cleveland, Ohio, discussed: "Hemoglobin Standards." The meat of his paper consisted in showing how very undependable were the commonly used hemoglobin apparatus such as the Dare, Salhi, and others, unless each instrument was standardized by use of the Van Slyke method for hemoglobin determination. It is the author's idea that we should take each instrument, read a hemoglobin then immediately determine the hemoglobin with the Van Slyke. After checking ten hemoglobins in this way, it is possible to definitely determine the percentage of error of the given piece or apparatus.

One of the scientific exhibits by Kracke of Emory University of Atlanta, Ga., tabulated some 1,000 cases of agranulocytosis, with a recovery of about 20 per cent. In Kansas and the middle west, our mortality has been much higher; in fact, the cases reported in Kansas show almost 100 per cent fatal. Rather than the term agranulocytosis, the name granulopenia has been suggested and appears to be better nomenclature.

Dr. Carroll Birch of Chicago, Ill., reports very good results in the treatment of hemophilia with whole ovarian extract. In her work, she administers from 15 to 120 grains of whole ovary every day. True hemophilia is present only in the male and confined to the younger ages.

Dr. M. Bondansky of Galveston, Texas, reported seven cases of polycythemia living over a period of years, following the use of acetylphenylhydrazine. Phenylhydraizine has been used for years in the treatment of this condition, but the patient soon reaches a point where he cannot tolerate more of the drug. Acetylphenylhydrazine does not have the toxic effect of phenylhydrazine.

Few pathologists in the United States are as capable in grading malignant tumors as Dr. A. C. Broders of Rochester, Minnesota. In general his rule follows about these lines, although the individual pathologist factor enters and many of us are not capable of definitely establishing a class for a given tumor. Grade 1 epithelioma, one in which differentiation ranges from 75 to 100 per cent, while the undifferentiated cells vary from 0 to 25 per cent. Grade 2, one in which the differentiation ranges 50 to 75 per cent, while the undifferentiated cells vary from 25 to 50 per cent. Grade 3, one in which the differentiation ranges 25 to 50 per cent, while the undifferentiated cells vary from 50 to 75 per cent. In grade 4, we have the undifferentiated cells from 75 per cent up. The clinical application of this classification is that grade one shows practically no tendency to metastasize. Grade 2 shows only slight tendency to metastasize, while grades 3 and 4 are definitely malignant and show signs of early and rapid recurrence.

RECENT MEDICAL LITERATURE

Edited by
WILLIAM C. MENNINGER, M.D., Topeka

The Heart in Thyroidism—In the beginning of the discussion the author considers the symptoms and signs upon which a diagnosis of thyroidism (or thyrotoxicosis) should be made. He states that none of the unusual heart manifestations enumerated are sufficient in themselves for a diagnosis of thyroidism but given any one of these combination of symptoms a most careful search should be made for further evidence of a seriously disturbed thyroid function. Of the heart disturbances due to thyroidism the most troublesome is auricular fibrillation. We are hearing much today about the "thyroid heart." Is there such a condition in the sense that there is a definite pathologic state associated therewith? The writer quotes from Lahey (Annals of Surgery, Oct., 1929) "As a result of our experience with thyroid disease, we have come to the conclusion that thyroidism in itself does not cause heart disease, and there is no heart state which can be designated as a true thyroid heart." The author thinks that the treatment of thyroidism is almost wholly surgical, but a more or less prolonged medical regime should precede every operation for thyroidism. At the time of the operation, the surgeon should have a threefold objective as pointed out by Munn (Am. J. of Surgery, July, 1929.) The first is to minimize cardiac strain; (2) sustain heart muscle by adequate oxygenation and nourishment, and (3) minimize obstructive respiration to an already somewhat embarrassed lung. The operative precautions are dealt with at some length as their proper observance may result in the recovery of the patient with a seriously handicapped heart while their neglect may result in a fatality.

Harry L. Jones, M.D.: Bulletin of the University of Kansas School of Medicine 2:5-6, April, 1932.

Dental Foci in Relation to Ocular Disease; Case Reports—Cassity reports three cases of dental foci in which ocular manifestations are present. In each of the cases visual disturbances were present and caused the consulation, whereas in each case extraction furnished relief. The mere fact that one has lost all of his teeth and is wearing dentures should not exclude the teeth as a possible causative factor in eye disease. Not infrequently infected broken root ends or alveolar abscesses are found in such cases. Occasionally, from orthodontic appliances, too rapid movement, causing strangulation, will result in pulp degeneration or pulp death.

J. P. Cassity, D.D.S.: The Medical Bulletin of the Veterans' Administration 8:304-305, April, 1932.

Ephedrine in the Treatment of Narcolepsy—Collins reports two experiments made on patients suffering from narcolepsy with the use of ephedrine and concludes that to gain the best results in the therapy of narcolepsy, ephedrine should be given orally in doses ranging from 0.375 grain (0.025 gm.) to 0.75 grain (0.05 gm.), three times daily. He suggests the first dose be given at eight o'clock in the morning, the second at noon, and the last at four in the afternoon. The writer concludes that much more time will be required to observe these patients who have been treated with ephedrine before final conclusions can be reached but so far the results in most instances have been remarkable.

Harry A. Collins: Annals of Internal Medicine 5: 1289-1295, April, 1932.

The Man-Environment Unit and Peptic Ulcer—It may be said that the ulcer race families seem to produce a preponderance of males, and that these males are of the thin long type. Furthermore, not only in their morphology, but also in their psychologic make-up, they display a well marked emphasis on the feminine component of the androgynous mosaic. Fear, which is clearly an important factor in the digestive disturbance of the gastric ulcer race, is of two sorts: First, there is the chronic substratum of anxiety due to the person's constitutional sensitiveness to the threat of the female component. This is the elemental emotion which results in the masculine protest. Second, there is the acute or precipitating fear occasioned by the accident or insult which provides a transient menace to life, limb

or ego. It would seem that the peptic ulcer race was composed of persons of definite constitutional type. These people possess qualities of soma and psyche which can be easily recognized. When the healthy balance of the "man-environment unit" is disturbed, symptoms in the domain of the sympathetic nervous system and gastro-intestinal tract develop. The "man-environment unit" disturbance can often be corrected permanently by the use of appropriate psychotherapeutic methods. Analytic psychology at present seems to offer the best attitude of approach. Twenty-two illustrative cases by means of this method are presented.

George Draper, M.D., and Grace Allen Touraine, A.B.: Archives of Internal Medicine, 49:616-663, April, 1932.

x-Ray Diagnosis of Brain Tumor—Moxness states with improved technique it is possible to diagnosticate and localize approximately one-third of the tumors within the skull and offers about a 50 per cent chance of being fairly certain that a pathological process is present. Much of this depends, however, on the technique which he states is to include lateral fluoroscopic film, antero-posterior film, taken by flexing the head on the body so as to incline it on the film holder 20 degrees and directing the incident rays vertically downward. He discusses the indirect signs of brain tumors including those resulting from increased intracranial pressure, atrophy of the dorsum sellae, convolutional atrophy, separation of the tissues, increased prominence of the diploic vessel and widened arterial grooves. The direct signs depend on the location of the tumor which in the case of sellar tumors produce an alteration in the size and shape of the sella turcica. Extrasellar tumors are shown by a calcification within the tumor, localized brain atrophy or local brain hyperostosis. He regards ventriculography as an extremely valuable aid in diagnosis but can be used only in properly selected cases.

Moxness, B. A., Roentgenology as an Aid in the Diagnosis of the Localization of Brain Tumors. Medical Bulletin of the Veterans' Administration. 8:99-104. February, 1932.

The Physicians Library

(Continued from Page 210)

Tables of Food Values by Alice V. Bradley, B.S., Supervisor and Instructor of Nutrition and Health Education, State Teachers College, Santa Barbara, California. Published by The Manual Arts Press, Peoria, Illinois. Price $2.00.

The book "Tables of Food Values" should be of special interest and value, particularly, to Home Economics teachers, physicians, dietitians and any one concerned with treatment of diets.

The introduction is very complete in explaining terms and the use of the tables so that it would be an easy matter to make the book quite a practical and usable one.

The book is divided into two parts, each part dealing with a set of tables. These tables include commonly used foods with one set of tables containing information regarding average servings, the other, 100 gram portions.

Both sets of tables give the following information regarding each kind of food: the measure of food, the weight in grams of protein, fat and carbohydrates, total calories, mineral shares, value as source of minerals and vitamins, value as source of bulk, and acid or basic reaction of food.—Frances Shewmaker.

A Handbook of Ocular Therapeutics, by Sanford R. Gifford, M.A., M.D., F.A.C.S., professor of ophthalmology, Northwestern University Medical School, Chicago, Illinois; attending ophthalmologist, Passavant Hospital, Wesley Memorial Hospital, Evanston Hospital. 12 mo, 272 pages, with 36 engravings. Cloth, $3.25, net. Published by Lea & Febiger, Philadelphia, publishers.

Dr. Gifford's book is the type of book that appeals to me very much. In it he has thoroughly covered the various effective methods employed in treating diseases of the eye without going into a long history of the origin of the treatment, and he does not mention various methods of treatment that have been tried and found not to be effective or effective only in the hands of a certain few, all of which makes a large amount of unnecessary reading and takes a good deal of time. However, the book is not to be considered as a "compend" type of book, which type of book is of very little value. I am sure that all oculists will profit by the presence of this book in their library.—W. K. H.

A Doctor of the 1870's and 80's by William Allen Pusey, sometime President of the American Medical Association and of the American Dermatological Association. Octavo, pp. 153, published by Charles C. Thomas, Springfield, Illinois, and Baltimore, Md. Price $3.00. 1932.

We have in this volume a memorial by a distinguished doctor to his father, who was a pioneer physician of the old school. While it is a biography, it is, further, a tribute to the old-time country doctor, who has almost disappeared. The narrative carries us, page by page, through the drawbacks, and vicissitudes, as well as the joys and triumphs, of the beloved character so well portrayed. While the author writes of his father, he is also delineating a type, and he does it in a masterly way, without exaggeration or resort to unreal coloring or the glamor of fiction and imagination. The elder Pusey is made to appear a real, common and very human person, and the people among whom he moved are shown to be very real people, much like the people we have today. Those of us who had fathers who were doctors will be moved to loving remembrances by many of the incidents described in this book. There are many illustrations, made from kodak photographs, which lend to the work an actuality not otherwise obtainable.

The author has great charm as a writer and he has taken pains to tell his story without either the indication of overpraise on the one hand or of depreciation on the other. Our readers will find this a most delightful and inspiring book to peruse.—O.P.D.

History of Medicine in the United States, by Francis R. Packard, M.D., Philadelphia: Editor Annals of Medical History. Two volumes, $8.00, cloth, 1348 pages, 103 illustrations. Published by Paul B. Hoeber, Inc., New York, 1931. Price $12.00.

No other work has covered the subject so thoroughly as has this by Dr. Packard. It is comprehensive in scope, going back to the very beginnings of American history, and it is also entertaining, bringing the reader into an interesting acquaintance with medical characters and a familiarity with the world in which they lived. The author makes his history unfold with the history of America. We see how great epidemics, great medical education, great developments in hospitals, medical education, legislation, etc., all came about, and how they were related and interwoven. We shall not attempt to mention every chapter, but the following stand out as of especial interest: "Epidemic Sickness and Mortality in the English Colonies in North America from Its Earliest Discovery to the Year 1800," "The Earliest Hospitals," "The Earliest Medical Schools," "The Medical Profession in the War for Independence," "Some of the Medical Schools Founded During the First Half of the Nineteenth Century," "The Beginnings of Specialism in America."

He who reads this book will feel that he has not only profited but entertained, and it may be commended to every studious physician as worthy of a place in his library.—O.P.D.

Surgical Pathology of the Female Generative Organs, by Arthur E. Hertzler, M.D., Surgeon to the Agnes Hertzler Memorial Hospital, Halstead, Kansas: Professor of Surgery, University of Kansas. Octavo 335 pages. 285 illustrations. J. B. Lippincott Co., Philadelphia, Pennsylvania. Price, $5.00.

This is the fourth volume in the series of ten of Hertzler's Monographs on Surgical Pathology. Like all the volumes in this series the text is concise and clear, the illustrations are numerous and very fine. The entire volume shows much concentration of thought and effort. The author has given his own end results, that of which he knows and has seen.

He strongly advises conservatism in the surgery of the female generative organs and points out the tragic consequences of useless operative work.—M. B. M.

Fertility and Sterility in Marriage, by Th. H. Van De Velde, M.D., formerly Director of the Gynecological Clinic of Haarlem, Holland. Translated by F. W. Stella Browne. 448 pages. Published by Covici Friede, New York, N.Y. Price $7.50.

Deals with extremely significant matters, and with questions in the forefront of public interest today; questions as difficult to elucidate as they are important to estimate and understand.

According to the announcement of the publishers, "because of its scientific character and because of the legal restrictions placed upon its distribution, is available only to duly licensed physicians on their written or authorized order."—E. G. B.

COUNTY SOCIETY NEWS

CLAY COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Clay County Medical Society was held at Green, Kansas, May 11, 1932.

The members of the Society and a number of guests were entertained at a delightful seven o'clock dinner by Dr. and Mrs. Warren Morton.

The meeting was called to order by Dr. E. C. Morgan at 8:30 p. m. The minutes of the preceding meetings were read and approved. An application for transfer from the Riley County to the Clay County Medical Society, signed by Dr. A. L. Lemon of Wakefield, was presented to the society and approved.

Dr. Minford A. Hanna of Kansas City, Missouri, was introduced to the society as the guest speaker of the evening. Dr. Hanna gave a brief but practical treatise on the anatomy of the female pelvis and a very interesting review of the popular types of perineal repair with his own modifications. The lecture was illustrated by lantern slides and a motion picture of the operation was shown afterward. The picture was taken by Dr. Rex Dively of Kansas City, Missouri, Dr. Hanna being the operator.

The lecture was discussed by Drs. Colt, Sr., Stillman, Cave, Colt, Jr. and Morton.

Following the discussion four reels of motion pictures were shown on the conduct of labor in breech presentation by Dr. DeLee of Chicago, with frequent oral elaboration of interesting points by Dr. Hanna.

The society was honored by the presence of our new president-elect, Dr. J. D. Colt, Sr., who was called upon for a short talk.

Dr. C. C. Stillman, councilor of this district, gave a brief dissertation on the state convention.

Dr. Nelson of Manhattan thanked the society for the excellent dinner and generous hospitality.

During the past years the society has always relied upon Dr. R. J. Morton to make the motion for honorary members. In his absence, Dr. Stillman acted as a "pinch-hitter" and made a motion Dr. Hanna be elected to honorary membership. Motion carried. Dr. "R. J." has practiced medicine in this community for more than fifty years and has always been a staunch supporter of the Clay County Medical Society. For the past few months he has been confined to his bed and his absence is always conspicuous. However, we can expect him at the next meeting.

Dr. Hanna thanked the society for their generous hospitality and honorary membership.

Sixteen members and thirteen visitors were present. The visitors were: Dr. Hanna, guest speaker; Drs. Colt, Sr., Colt, Jr., Cave, Schoonhoven and Nelson of Manhattan; Dr. Jackson, formerly of Wakefield, Kansas, now of Columbia, Missouri; Dr. McVay of Linn; Dr. J. C. Lehave, Junction City; Mr. George Young and Mrs. Morton of Green; Miss Pace, Mrs. Dixon and Mrs. Croson of Clay Center.

On motion the meeting adjourned at 10:40 p. m.

J. Leonard Dixon, M.D., Secretary.

RILEY COUNTY MEDICAL SOCIETY

The Riley County Society met in regular session at the Gillett Hotel May 9, 1932, at 6:00 p. m. After dinner the following business and program was completed:

Moved and seconded the next meeting be in September. Carried.

Dr. Nelson stated he acted as delegate at the state meeting and gave a short report of same.

Dr. Mathews asked that all physicians be informed there would be a free tubercular clinic held between the 15th and 31st of May.

Letters were read from the governor, attorney general and chairman of the crippled children's commission in regard to the crippled children's law.

Papers were read by Doctors Henderson and Groody on "Infections—General Management, Wound Pathology and Serums."

Members present: Doctors Cave, Groody, Siever, Clarkson, Nelson, Reitzel, Henderson, Attwood and Sharp.

Chas. M. Siever, M.D., Secretary.

RUSH-NESS COUNTIES SOCIETY

The Rush-Ness Counties Society met at the office of J. E. Attwood, M.D., LaCrosse, Kansas, on May 25th at 7:30 p.m., Dr. L. A. Latimer, president, presiding. The minutes of the previous meeting were read and adopted.

H. C. Embry, M.D., of Great Bend read a very interesting paper on "Osteomyelitis," stressing the importance of early diagnosis. He brought out a number of interesting points of diagnosis and presented two clinical cases that he had operated—one case in which the diagnosis had been made early and the other late, showing the end results. The paper was well received and a general discussion followed.

It was agreed to hold the next meeting of the Society at Dr. L. A. Latimer's Hospital, Alexander, Kansas, the latter part of July.

While our Society is small we feel we have a fine bunch of fellows and our meetings always promote good fellowship.

Dr. Attwood served a very nice lunch and the meeting adjourned at a late hour.

Members present were Doctors Attwood, Robinson, Latimer, Grisell, Parker and Singleton. Visitors present were Drs. Stockwell, Hobbs and Embry.

W. Singleton, M.D., Secretary.

SEDGWICK COUNTY MEDICAL SOCIETY

After a year of gratifying progress and complete inter-society co-operation and harmony, the Sedgwick County Medical Society at its annual meeting on May 17, elected new officers to take office on January 1, 1933.

Dr. C. D. McKeown, for five years treasurer of the society and the present chairman of the board of directors, was elected to supersede Dr. H. N. Tihen as president; Dr. Fred J. McEwen was elected as vice president; Dr. A. W. Fegtly as treasurer and Dr. H. E. Marshall was reelected as secretary.

Doctors T. T. Holt, Arch D. Jones and H. N. Tihen were elected to three-year terms on the board of directors. Dr. L. P. Warren was chosen to serve a similar period on the board of censors. Mac F. Cahal was retained as executive secretary.

The enthusiastic work of committees is expected to continue throughout the summer although regular meetings of the society will be discontinued until fall. The fall activities will begin with the annual golf tournament the first part of September. Many unfinished projects and many new problems await the attention and action of the membership during the next year.

Mac F. Cahal, Executive Sec.

WYANDOTTE COUNTY MEDICAL SOCIETY

The regular meeting of the Wyandotte County Medical Society was held at the Wyandotte county court house, 8:00 p. m., May 17, 1932, with Dr. L. B. Gloyne, president, presiding. Minutes of the previous meeting were read and approved.

Dr. C. J. Mullen reported the golf committee activities and asked that every one fill out and send in the questionnaire so that the pleasure of the society might be known to the committee.

The applications of Doctors W. H. Finley and Albert Harms were read and referred to the board of censors.

Dr. J. F. Hassig gave a very interesting report of the working of the house of delegates and urged that in the future the county society select delegates with more care.

The secretary gave a partial report of the financial standing of the society which showed a balance in favor of our treasury.

A symposium on the Urinary Tract was given by Doctors T. G. Dillon and O. W. Davidson; was excellently presented and freely discussed by Doctors L. G. Allen, E. R. Parker, L. Leitch, F. E. Angle and N. C. Speer.

There were 26 members present.

C. Omer West, M.D., Secretary.

WILSON COUNTY MEDICAL SOCIETY

A crippled children's clinic was held at the American Legion Hall at Fredonia, May 27, under the auspices of the Wilson County Medical Society. Seventy-nine children were examined by C. B. Francisco, M.D., examining surgeon.

The arrangements were different from most clinics held in this part of the state.

One end of a large hall was screened off for examining purposes. Undressing rooms and dressing rooms were made by movable screens.

At 6:30 p. m. the Wilson County Medical Society met with the Southeast Kansas Medical Society at The Loether Hotel, Fredonia. After dinner the meeting was called to order with Dr. F. M. Wiley in the chair. Dr. C. B. Francisco was the first speaker and talked for an hour on back troubles, a popular and important subject. Dr. P. T. Bohan then spoke on abdominal pains and presented some rather new ideas well worth our serious thought.

It has been the desire of many of us to reorganize the old Southeast Kansas Medical Society. Although we have held several meetings this winter we had no organization, but were entertained by the county society where the meeting was held. Dr. H. N. Tihen and Dr. J. F. Gsell of Wichita made short talks, also our president, Dr. P. S. Mitchell, after which we proceeded to organize the Southeast Kansas Medical Society. The following officers were elected:

President, E. C. Duncan, M.D., Fredonia; vice president, Howard E. Marchbanks, M.D., Pittsburg, and secretary-treasurer, L. D. Johnson, M.D., Chanute. We voted to have no dues and eligibility will be through membership in the state society. It was decided to hold four yearly meetings and Independence, Kansas, was selected as our meeting place for September.

Meeting adjourned.

E. C. Duncan, M.D., Secretary.

SHAWNEE COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Shawnee County Medical Society was held at the Hotel Jayhawk on Monday evening, May 9.

Dr. C. F. Nelson, professor of physiological chemistry at the University of Kansas Medical School, Lawrence, discussed: "Anoxemia With Its Clinical Manifestations."

The application of Paul R. Webster, of Topeka, was presented for first reading.

More than sixty members of the society and guests attended a special meeting on May 20, to hear an interesting discussion of "The Treatment of Pernicious Anemia by the Injection of Liver Extract," given by H. M. Conner, of Rochester, Minn. Dr. Conner's talk was illustrated with many lantern slides.

Dr. Conner before moving to Rochester, practiced medicine in Topeka, and was a member of the Shawnee County Society.

At a special meeting of the society held at Christ's Hospital, May 23, a resolution was adopted wherein the members agreed to co-operate with the Parent-Teacher Association of the city in a diphtheria immunization program.

Earle G. Brown, M.D., Secretary.

DEATH NOTICES

James Nelson Rose, Hutchinson, aged 75, died May 18, 1932, of uremia at Grace Hospital. He graduated from Memphis Hospital Medical College in 1886. He was an honorary member of the society.

KANSAS MEDICAL AUXILIARY

MRS. J. THERON HUNTER, Topeka
Chairman of Publicity

The following is an interesting report of State and National Medical Auxiliary meetings by our new president, Mrs. E. C. Duncan, Fredonia.

The members and guests of the Kansas Medical Auxiliary were delightfully entertained at the state meeting in Kansas City, Kansas, on May third, fourth and fifth by the wives of the doctors of the Wyandotte County Society.

On Tuesday, May third, an automobile drive through the residence districts of greater Kansas City was enjoyed followed by a tea at the home of Dr. and Mrs. C. C. Nesselrode. On Wednesday, May 4, a one o'clock luncheon was given at the Quivera Lakes Club House. This was attended by a large number of ladies who were privileged to hear a very interesting and instructive address given by our national president of the Medical Auxiliary, Mrs. A. B. McGlothlan of St. Joseph, Missouri. Dr. Earle G. Brown,

of Topeka, editor of the Journal, and Dr. W. W. Bauer of Chicago both made short addresses.

At the business session of this meeting, an amendment to the state constitution was adopted whereby the fiscal year of the state and all county auxiliaries should be from May 1 to May 1. It is desired that all organized county auxiliaries should change their constitutions to conform to this new ruling. In this way the state and county auxiliaries fiscal year will be the same and avoid much confusion as to dues, etc. During this session, the following state officers were elected for the coming year of 1932 to 1933:

President-elect, Mrs. E. J. Nodurfth, 1844 Wellington Place, Wichita.

Vice president, Mrs. G. H. Hobson, 1319 Quindaro Blvd., Kansas City, Kansas.

Secretary, Mrs. M. O. Nyberg, 3321 Victor Place, Wichita.

Treasurer, Mrs. W. G. Emery, Hiawatha.

A banquet for both the doctors and their wives was given the evening of May 4 at the Soldiers' and Sailors' Memorial Building and a large number were in attendance.

Mrs. J. W. McGuire of Neodesha, Kansas, was elected delegate to the national meeting in New Orleans, and Mrs. Clarence E. Sanders of Kansas City was elected her alternate. Your state president, delegate and alternate all attended this meeting in New Orleans and a goodly number of other Kansas ladies were in attendance.

This was a splendid meeting in every respect. Some nine hundred women were in attendance and enjoyed the dinners, luncheons, teas and trips through this wonderful city provided by the convention committee who proved themselves royal hostesses.

The business sessions of the national auxiliary were held in Jerusalem Temple and here was also displayed an interesting and instructive exhibit of work done by all auxiliary units. At the general meetings a membership of more than 13,000 was reported for the national auxiliary. Each year the number grows and the western states show a steady increase in membership. The Louisiana state auxiliary was reported to be doing fine in its health work among the negro population.

A new system of uniform filing cards and receipt blanks will be installed throughout the states this coming year. These may be obtained from national headquarters for a small price.

On Wednesday, May 11, a 1 o'clock luncheon was given at the Southern Yacht Club in New Orleans and was attended by some five or six hundred women. Dr. Olin West of Chicago, who is on the national advisory council, was the guest speaker for the afternoon.

The importance of the work being done by the Woman's Auxiliary to the American Medical Association is being recognized more each year and it is hoped the time will come when every eligible doctor's wife will be a member.

Mrs. E. C. Duncan, President.

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ORIGINAL ARTICLES

TREATMENT OF HEMORRHOIDS*

BARRETT A. NELSON, M.D.
Manhattan, Kansas

Despite the tireless efforts of such proctologists as Hullsiek, Hirschmann, and Buie who have given so freely of their time and the fruits of their experiences, the general practitioner is, as a rule, lacking to a greater degree in the fundamentals of rectal disease than in any other phase of his work. And yet it is a field in which there is such abundant opportunity for him to be of great service to his clientele. A very large proportion of our patients are suffering from conditions of the rectum, and particularly the anal canal, most of which are readily amenable to treatment. Often these patients are hesitant to refer to them, and the symptoms may only be elicited by specific questioning. Often the condition is discovered only in the course of a general examination.

There lies the crux of the matter. It seems to be almost axiomatic that the average general practitioner cannot be persuaded to make a careful rectal examination. Not a week passes without some patient coming to me with the statement that a physician had prescribed for his "piles" by furnishing an ointment or suppository without even an attempt at a digital or anoscopic examination, simple procedures consuming but a few minutes of time.

Even among those who will exert themselves to the extent of going into the matter we find a deplorable lack of knowledge of the simplification and refinements of technique and a surprising tenacity in clinging to methods and procedures that have long since been discarded by successful proctologists. The most striking thing about modernized rectal surgery is the extreme simplicity of technique; and, strangely, the discarding of elaborate, complicated procedures has resulted in a marked decrease in the pain and discomfort to the patient.

The average individual who has suffered a hemorrhoidectomy tells of the torment of the post-operative period and of the opium and hypodermics given to check bowel passages and to alleviate pain. All of which are entirely unnecessary. Post-operatively, the hemorrhoidectomy patient should be more comfortable than he was before the treatment and there is no necessity for giving opium or other medication to check bowel movements. With the procedure about to be described patients invariably state that the first post-operative evacuation is less painful than were those before the operation.

TECHNIQUE OF HEMORRHOIDECTOMY

In the pre-operative preparation of the hemorrhoidectomy patient most surgeons have felt they must "clean out the bowel." As if such a thing were possible! The lower intestinal tract cannot be sterilized and Hirschmann has shown how severely the rectal mucosa is irritated by catharsis and enemas. Furthermore, an enema given just before an operation is often partially retained and discharged at a time most inconvenient for the operator.

A mild cathartic not later than two days before operation is permissible, though usually unnecessary; and it is well to give a cleansing enema of one per cent sodium bicarbonate the evening of the day preceding operation. The hair about the anus is cut with scissors, not shaved. Shaving invariably produces irritation and small cuts in the irregular skin surface and is of no benefit.

Preliminary medication consists of a fairly large dose of a sedative of the bar-

*Read at the 74th annual meeting of the Kansas Medical Society, May 3, 4 and 5, 1932, Kansas City, Kansas.

bituric acid series, usually barbital grains X, pheno-barbital grains III, or sodium amytal grains III to VI. Given an hour before operation, this allays apprehension and nervousness more effectively than a hypodermic of morphine which so often causes nausea. There is also the attained antitoxic effect of these drugs when used in conjunction with novocaine.

The prone position or the Sims position are far more satisfactory, both to patient and operator, than the lithotomy position, particularly with the patient awake. Special tables are convenient, but an ordinary operating table with the hips elevated over one or two firm pillows does very nicely. In the prone position with the sphincter relaxed, as it is when properly anesthetized, the operative field becomes horizontal and practically a plane surface, in full view of both operator and assistant and readily accessible.

Probably no form of anesthesia is so suitable for this work as caudal anesthesia. It is localized in its effects and less profound than spinal anesthesia. It is simply administered. It produces anesthesia within a few minutes and the sphincter is completely relaxed, *not* divulsed. Divulsion, necessary under general anesthesia, is a forcible procedure which produces tearing and ecchymosis in the muscular fibers of the sphincter, and is one of the most prolific causes of post-operative pain. Next to caudal anesthesia, the most preferable is local infiltration directly into the sphincter which produces an equally satisfactory relaxation.

As set forth in a previous paper, I still hold to simple ligation and excision as preferable to the clamp and cautery or other types of operation. It is such a simple, logical procedure; there is so much less swelling and post-operative bleeding, and so much less post-operative pain. Though without personal experience in the use of electro-coagulation I am as yet unconvinced that that method offers all the advantages claimed for it.

The hemorrhoid is grasped in a forcep and drawn down until a round needle bearing a catgut ligature can be easily passed through the mucous membrane to include the vessel which enters the pile from above. Care is exercised to place this ligature deep enough to produce hemostasis and high enough to hold after the pile is excised. In applying the forceps it is best to clamp only tissue which will later be removed.

Excision is done from above downward, conserving as much mucous membrane as possible. If the ligature has been properly placed, the procedure is practically bloodless. On reaching the skin, with an interno-external hemorrhoid, it is well to excise more widely. We do not desire direct skin co-aptation, because of the danger of retention of infected tissue juices which prevents healing and may even produce a fistula.

The portion of the wound lying above the muco-cutaneous line is sutured with plain catgut, but not the skin margins. Any sutures placed in the peri-anal skin will, in addition to the undesirable effect just mentioned, cause severe post-operative pain. Subcutaneous vessels are ligated and occasionally, if there is a widely gaping wound, the subcutaneous tissues are drawn together by one or two plain catgut sutures. This procedure is then repeated with the remaining hemorrhoids and the operation is completed. Butesin picrate ointment is applied to the area. A small wick saturated with ointment, not larger than a small lead pencil, may be left in the canal. A flat pad is placed over the anus, held in place by two strips of adhesive across the buttocks. Please note that the large plugs of vaselined gauze and lengths of rubber tubing are not forced into the rectum to torture the patient subsequently. Those are implements that should be stored away with the relics of the Inquisition.

Post-operatively nothing is given to allay bowel action. The patient is given one dose of morphine on reaching his bed which it is rarely necessary to repeat. He is placed in the Montague position, head pillow removed, a firm pillow beneath the hips and another pillow under the knees. This corresponds to "elevating the part" as is done with any congestive condition of an extremity, and it adds greatly to the patient's comfort.

Liquid petrolatum or one of the emulsions of oil and agar are given in half-ounce doses twice daily. The diet is soft

the first two days and gradually increased thereafter. An important and valuable detail is the hot Sitz bath which is started on the third day and continued for fifteen minutes at least twice daily, one bath to follow each defecation.

Once daily the external wound is cleansed with a bland solution and painted with mercurochrome or metaphen solution. Butesin picrate ointment is then applied and a small quantity worked into the canal with a cotton applicator.

On the fourth day a thoroughly lubricated finger is very gently passed into the anal canal to break down any adhesions that may have formed. There will usually have been a natural bowel movement by this time. If not, a mild laxative may be given and the following morning an enema of six ounces each of olive oil (or cottonseed oil) and water.

The patient is discharged in less than a week, as a rule, and instructed to report to the office every second day until the wounds have granulated in. He should be examined after a month. Occasionally one or two small internal hemorrhoids will be found which may be given one or two injections to eliminate them.

In summarizing the essential points in this procedure, the following should be stressed:

1. No irritation of the bowel by catharsis or enemas just before operation.
2. Relaxation of the sphincter instead of divulsion.
3. Care to clamp only tissue that is to be removed.
4. Conservation of mucosa and fairly wide excision of skin.
5. Minimum of suturing in the mucosa and no sutures in the peri-anal skin.
6. Rational post-operative care.

INJECTION TREATMENT OF HEMORRHOIDS

This method of treatment has become very much popularized and, doubtless, much abused. Properly administered to properly selected cases, it is very effective; but it is necessary that the correct technique be followed. Many unfortunate consequences have followed efforts to apply it from mere book instruction. The technique is best mastered by direct clinical observation.

I prefer quinine and urea hydrochloride in solutions varying from five to ten per cent in strength. I believe that the men who report unsatisfactory results with this solution have either used it incorrectly or in improper concentration. With long-standing prolapsing hemorrhoids it is often necessary to use concentration as strong as ten per cent. Solutions of this strength will not cause sloughs if properly injected.

Phenol in oil has been much vaunted in recent years, and many men using it are reporting excellent results. Its use is not entirely without risk, however. Rosser[1] of Dallas reported finding twenty-four cases of rectal stricture following its use. That is too large a group to be idly dismissed.

Alcohol is recommended by a German surgeon[2] but, as far as I know, it is not used in this country.

Injection treatment is applicable only to internal hemorrhoids, that is, those covered entirely by mucous membrane. These constitute 80 to 90 per cent of the cases presenting themselves for treatment, and very often external hemorrhoids, if not large, will shrivel into small skin tabs after injecting the adjacent internal pile. The method should not be used for external hemorrhoids with cutaneous covering nor in the presence of ulceration. Inflammatory internal hemorrhoids should first be treated with local applications, hot Sitz baths, ointments or suppositories until the inflammation has subsided. Fibrotic internal hemorrhoids formed largely of connective tissue do not respond well to injections.

Once understood, the technique is quite simple. The patient is placed in the Sims position. An ordinary head lamp gives good lighting. The hemorrhoid is easily visualized through a Hirschmann or Brinkerhoff anoscope. I prefer the former, *never* a bi-valve speculum. An ordinary Luer syringe with a 2 or 2½ inch needle of approximately 24 gauge is very satisfactory. The mucosa is cleansed with a cotton applicator and painted at the site of injection with metaphen solution.

The injection must be made clear through the mucosa, but not deeply into

the hemorrhoid; and it must be well above the muco-cutaneous line. Best results are obtained if the first injections are made quite high on the pile. Intramucosal injection invariably causes a slough but as much as one or two cubic centimeters may be injected if properly placed.

Two or three hemorrhoids are treated at each sitting which may be repeated at weekly intervals. From six to twelve treatments are usually necessary.

The injections are practically painless and there is no loss of time from work. There is often a moderate throbbing ache about an hour after treatment for which the following gives relief:

Cod. sulph. gr. $\overline{ss}$
Ac. acetylsal. gr. V
Acetphenetedin gr. V

This prescription is usually prepared in capsules and one administered routinely after each treatment.

It is well to re-examine these patients three or four months after an apparent cure. If there be any hemorrhoidal structures remaining one or two additional injections will usually suffice to eliminate them.

The injection treatment with quinine and urea hydrochloride has proved to be very satisfactory. It is acceptable to many patients who fear operations or who refuse hospitalization. It gives good results in properly selected cases. It is particularly effective in cases with bleeding, and it has even proved satisfactory with marked prolapse of internal hemorrhoids.

1. Rosser, C.: Chemical Rectal Stricture, J.A.M.A. 96:1762 (May) 1931.

2. Boas, I. Injection Method in Treatment of Internal Hemorrhoids, Deutsche med. Woch. 57:225 (Feb.) 1931.

℞

Dr. Lawrence H. Rogers, Trenton, N. J., superintendent of the Municipal Colony Hospital, reports 100 per cent success in the treatment of eighteen diphtheria carriers with *x*-ray.

℞

Of the 33,075 births reported in the state in 1931, 8,016, or 24.2 per cent occurred in hospitals. In 1927, 5,627, or 15.7 per cent of all births occurred in hospitals. Midwives attended but 152 births in 1931, or 0.5 per cent of the total.

FISTULA IN ANO*

J. D. Colt, M.D.
Manhattan, Kansas

I shall limit my discussion to fistula which connect the lower bowel, including the rectum with the skin, and only make mention of the rectal or anal fistulae which connect those organs with parts of the body other than the skin, such as: recto-vesical, recto-urethral, recto-vaginal, recto-labial, recto-scrotal, or osteo-rectal-fistula which hay have one extremity situated in a bone, such as the femur or one of the pelvic bones, including the hip joint.

The term "fistula," from the Latin word meaning a reed or pipe was probably applied to this condition because of the existence of the tube-like channel through which gas or feces escape in a complete fistula. A complete fistula may be defined as an unhealthy or non-granulating sinus with two openings, one on the surface, usually near the anus, and the other in the rectum. This condition was accurately described by Hippocrates and many other ancient writers. The death of Henry V, King of England, in 1422, revealed in him the existence of this malady, which surgeons of that time had not the necessary skill to cure. In 1728, Louis XIV of France suffered from rectal fistula, and it was then that the condition became fashionable and a large number of cases were noted.

Fistulae which are purely anal or rectal are of several varieties and are named from their shape and number of openings as follows: the first, "complete," which has an opening into the skin and one into the rectum or anus. This may be a simple, straight or slightly tortuous tract, or it may be a quite complex affair with many communicating sinuses, which may have blind endings or rather elaborate communicating passages situated in the subcutaneous tissue and extend over to the opposite side of the anus.

Second, a "blind-internal," fistula which has an opening into the bowel but no opening on the skin. It is my personal opinion that all fistulae in their original

*Read at the 74th annual meeting of the Kansas Medical Society, May 3, 4 and 5, 1932, Kansas City, Kansas.

state come under this heading, and that it is due to the sub-cutaneous dissection of the infected material in the fistula that the other forms are developed.

Third, the "complete-internal" fistula which has both of its openings in the bowel.

Fourth, the "horse-shoe shape" or "complete-external" which has both of its opening in the skin. This particular form, unquestionably at one time had an opening into the bowel, and frequently one is surprised at operation to find a sinus extending from the toe of the horse-shoe to the rectum. Let me warn you at this point that a careful search should be made for such a communicating sinus.

Fifth, the "blind-external" which has a communication with the skin but none with the bowel.

These latter two classifications undoubtedly do exist, but are so rare that they may be given little or no consideration, for if we are careful in our search for the internal opening, in many instances, that which was diagnosed as a blind external fistula proves at operation to have an internal opening and therefore comes under the classification of complete fistula.

The etiology of fistula is given as follows in order according to frequency:

First, trauma, which may be either external or internal in origin. The cases of external origin are of course much more rare and usually come as a result of a fall on some object which may tear or bruise the mucous membrane of the lower bowel, or may be the result of the careless use of the colon tube or enema tip. Those of internal origin may be the result of a constipated stool which bruises or tears the mucous membrane or of a foreign body which has been swallowed and passes down through the intestinal tract. The possibility of a bruising or tearing from some object passing down the intestinal tract is greatly increased if there is a stricture in the rectum. Other traumatic possibilities which, strictly speaking, come under neither the heading of external nor internal sources are as follows: The possibility of bruising of the mucous membrane of the rectum or even laceration during child birth. The possibility of bruising or laceration of the mucous membrane of the rectum during the unskillful handling of mental sounds or catheters in the male patient. The possibility of traumatic injury to the rectum during abdominal operations especially where there are pelvic adhesions, and also the possibility of injury to the rectum in performing a super-pubic prostatectomy.

A quite common etiologic factor is ulcerations of the mucous membrane which may form on the folds or may be superimposed on internal hemorrhoids.

Malignancies of the rectum not infrequently are the site of ulceration and, therefore, are to be considered as an etiologic factor. One must bear in mind this more serious possibility when presented with a case, which comes under his observation solely, by virtue of existence of a fistula.

Tuberculosis is another rather common etiologic factor but is not as frequently the cause as was originally thought, for in an article published by Fansler and Peter of the Glen Lake Tuberculosis Sanatorium at Oak Terrace, Minnesota, they found fistula in only five per cent of the patients, and of this five per cent, only eighty-two per cent of the rectal fistula were proven tuberculous in origin, the proof being based on smears made from sinuses and guinea pig inoculations or the presence of typical tubercle formations found in the fistula themselves.

Other writers give the incidence of tuberculosis as an etiologic factor in three per cent of the fistulae which come under their observation. Fansler and Peter state they were able to diagnose seventy-eight per cent of the tuberculous fistulae at the time of operation by the presence of macroscopic tubercles in the fistulous tract.

Syphilis is an etiologic factor which, while not common, is frequently the cause of ulcerations or strictures which indirectly result in fistulae formation.

Not uncommonly, fistulae which connect with the urethra or have their termination in a Bartholin's gland are found to contain pure strains of gonococci so that gonorrhea must be considered as a possible etiologic factor.

Age and sex seem to have little or no

bearing on the etiology although, unquestionably, most cases that come to operation are past middle age. However, a history of from a few to many years' duration is usually obtainable.

The symptomatology is usually quite definite and given as follows: The patient complains of an itching or uncomfortable feeling in the region of the anus which gradually increases and finally develops into a severe throbbing pain which makes the area about the buttocks quite tender. The patient may or may not have an elevation of temperature, a chill, or other general symptoms of toxic absorption. All of these symptoms and signs are completely relieved and disappear incident with the rupture of the skin and discharging of considerable sero-sanguineous fluid or the discharging of a similar fluid which is usually blood tinged through the rectum. As long as this discharge continues, the patient is entirely free of symptoms with the exception of the local irritation which may result from the drainage. When the drainage stops the symptoms may immediately reappear or may be absent for an indefinite period only to reappear at some later date. This period of quiescence may extend over several years and during this interim the patient may have the false conception that his malady has spontaneously cured itself.

The diagnosis of fistulae can usually be made from the history and local observation. Careful examination is of little value except to determine the etiologic factor and the exact kind of fistula with which one is dealing. In many instances, especially where the external openings are multiple or some distance from the anal aperture, it is advisable to inject the sinus with lipiodol or bismuth paste and take stereoscopic radiographs which will give one some idea as to the extent and nature of the fistulous tract.

It is rather poor judgment, quite painful to the patient, and of little value to the examiner to attempt to pass a probe down the fistulus tract for diagnosis. In so doing, normal tissues may be torn into which may result in a much more complicated condition.

TREATMENT

If the etiologic factor responsible for the fistulae is a general or systemic condition, such as tuberculosis or syphilis, these conditions should receive proper and recognized treatment so that the general resistance of the individual may be built up before any local treatment of the fistulae is attempted.

Due to the fact that surgical treatment of fistulae has been accompanied by an unusually large proportion of failures in result, many special palliative and surgical procedures have been devised and described, each of which has been more or less successful, but most usually successful only in the hands of their originators. One such method has been described by Warren of New Orleans, in the May issue of the Journal of Medicine and Surgery of that city. He accredits the procedure to Dr. Henry F. Alexander of Knoxville, Tennessee, now deceased. His treatment, in brief, consists of a series of steps as follows: He first straightens the sinus as much as possible and packs it tightly with gauze which has been thoroughly saturated with ten per cent zinc chloride paste. This he leaves in place for five days and on removal he claims most of the fistulous tract comes away with the gauze pack. He then passes a rubber ligature through the internal opening and just beneath the mucous membrane to the skin and mucous membrane junction of the anus, at which point the ligature is brought out and tied tightly with its opposite end. By the tension of this ligature the mucous membrane is gradually cut through, the theory being that granulation takes place nearly as rapidly as the cutting process. This entire procedure is done under novocaine local anesthesia, the patient being ambulatory during the entire process and little or no attention is given to the bowels.

There are many procedures devised in attempting to eliminate the necessity of cutting the sphincter muscle. We must, however, conclude there can be no definite routine process which is applicable to all cases, and the exact detail of the surgical procedure must be left to the discretion of the surgeon in charge. It may be possible for one to treat a simple blind external

fistula by repeated irrigations with some mild antiseptic, especially where adequate drainage is obtained. If a patient presents himself with a large abscess formation, either deep or superficial, this, of course, must be drained and given adequate time to clear up before any attempt is made to eradicate the fistulous tract.

I shall briefly describe the treatment which I employ in caring for fistulae and which I vary according to the necessities of the case.

After one has ascertained by radiogram, as nearly as possible, the kind of a case with which he is dealing, the patient should be given a rather large dose of castor oil about three days before operation. Following this the lower bowel should be washed out twice daily with a quart of normal saline. The last lavage should be used the afternoon prior to operation. The patient's diet during the three-day preparation period should consist of strict non-residue foods, such as fruit juices, sugar, sugar of milk, jello, fruit jellies, candy, consomme, coffee and tea. Approximately 3,000 calories a day can be given without difficulty. On the day before operation, rather large doses of camphorated tincture of opium should be given, depending of course on the age of the patient. In adults I usually give two drams at twelve, three and six o'clock on the day prior to operation.

I wish to state that in my personal opinion spinal anesthesia, sacral block, or general anesthesia are the anesthetics of choice. With novocaine or procaine local anesthetic, it is very difficult to get good relaxation of the sphincters. It is also difficult where the fistulae are complex and require considerable dissection.

Another point which may be of variable importance, but which I have always thought might be the source of subsequent abscess formation is the possibility of forcing or transferring infective material to a healthy region by the needle or solution used for the local anesthetic. I personally prefer the use of spinal anesthesia, giving sodium amytal, luminol, or ipral the night before and the morning of the operation.

The patient should be placed on the table in the dorsal or lithotomy position, though the thighs should not be flexed to such an extent that the skin of the buttocks is stretched too tightly. The external sphincter should next be entirely dilated and the mucous membrane of the rectum and the skin of the buttocks painted with tincture of iodine or mercurochrome.

A procedure which has been of great help to me and which I have not seen described in literature, I will give to you briefly. This is to inject the fistulous tract with a solution of hydrogen peroxide which contains twenty grains of methylene-blue to the ounce. This is easily accomplished with the use of cannula on an ordinary luer syringe. The peroxide boils through and seeks out all of the fistulous tract and carries with it the methylene-blue which stains the tract rendering it quite easy to see. If a glass speculum, or even an inverted test tube is placed in the rectum, the internal opening is usually quite easily found as the peroxide bubbles through.

The next step is to introduce a grooved director through the skin, carefully approaching the opening into the rectum. With one finger in the rectum, one can palpate and aid in directing the tip of the probe to the internal opening. After this has been accomplished, the end of the director should be brought out through the anal aperture and the tissues which intervene cut through with either a cautery or scalpel; care must be taken to divide the sphincter at right angles to its fibers. This will permit healing with the least amount of scar tissue formation. Next the variations in the fistulous tract should be followed and the various tracts dissected or cauterized or curetted. I personally prefer sharp dissection in all cases in which one is confident that tuberculosis is not an etiologic factor. In these cases cautery should be used.

From this stage two courses may be followed. One is the treatment of the wound with an antiseptic and immediatly suturing, hoping to effect a primary union which, in my experience, rarely occurs. This procedure is best carried out by first placing a sub-mucous continuous stitch which approximates the cut edges of the mucous membrane of the rectum

and anus. Next, a line of deep sutures is placed in the wound made in the buttocks, and finally a line of skin sutures placed to approximate the skin edges. Care, of course, must be taken to approximate the cut ends of the sphincter muscle. I might mention that it is quite important in this procedure to be sure that all of the fistulous tract has been removed, that all hemorrhage has been controlled, that no dead spaces are left in the tissues.

The other procedure, and the one which I usually employ, with a variation which I will describe later, is to treat the wound with some antiseptic, preferably mercurochrome or iodine, and place a loose vaseline gauze pack in the opening, keeping the dressings in place with adhesive and a T-binder. This dressing should be changed each day and the patient's diet should be the same as that described before operation. It should be seen that his bowels do not move for from four to six days after operation, at which time he should be given mineral oil, and eight ounces of mineral oil or olive oil introduced in the lower bowel by means of a catheter and funnel.

If the external opening is quite remote from the anal aperture, thereby permitting the cut sphincter to gap to considerable degree, I place sutures as described before, closing the portion of the wound farthest from the rectum to a point at the outer margin of the external sphincter, then pack the remaining portion of the wound as described above. This prevents the formation of a large amount of scar tissue between the cut ends of the sphincter which, in my opinion, is the cause of incontinence or partial incontinence, and at the same time makes provisions for adequate drainage of the wound.

CONCLUSIONS

The successful treatment of these cases is dependent upon a few simple procedures: i. e., the adequate preparation of the patient before operation; the choice of a proper anesthetic; the use of an operative procedure which is best adapted to the particular case and most successful in the experience of the surgeon in charge; and the proper post-operative care of the patient, both as to diet and as to treatment of the wound.

If these points are observed and conscientiously followed, there is no reason for the existence of recurrent fistulae or untoward sequela such as complete or partial incontinence.

THE OFFENSIVE AND DEFENSIVE FACTORS IN THE MECHANISM OF ACUTE INFECTIONS OF A MUCOUS MEMBRANE*

Harvey J. Howard, M.D.†
St. Louis, Mo.

The mucous membranes and the skin are both epithelial structures, ectodermal in origin. The epithelial cells of a mucous membrane, however, differ from those of the skin in being alive in every layer, whereas the superficial layers of the cells of the skin are dead. While both structures are essentially protective of the deeper tissues of the body, the difference in the vital character of their cells is responsible for a dissimilarity in their reactions to infective agents. Moreover, this difference also permits a dissimilar role to be played by microörganisms that come in contact with these structures.

The skin is always covered and more or less invaded by many forms of bacteria which grow in great abundance on the dead epithelial cells. Since these microörganisms thrive only on dead cells they are known as saprophytes. Moreover, they do not exercise a pathogenic action as long as they remain on the superficial cells and do not penetrate to the living cells beneath. But some of these bacteria which are saprophytic for dead epithelial cells may be pathogenic for deeper body cells when the epithelial cover is removed, as, for instance, following abrasions of the skin when infections quickly occur.

The opposite of a saprophyte is a parasite. The latter grows only in the presence of living substances, and when associated with living cells of the body, plays a pathogenic role. Since mucous membranes are composed wholly of living cells, the bacteria that grow on them are parasites and institute pathogenic

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action. It is true that saprophytic bacteria are often found in the presence of mucous membranes, but they are most probably nonpathogenic and are there only because they have developed on dead cells or other débris in the neighborhood.

Of the several mucous membranes of the body, there is one which easily permits the carrying out of experimental studies, and that is the epithelial covering of the eye—the conjunctiva and the outer membrane of the cornea. It is impossible to postulate that what occurs in the eye occurs also in the same way and to the same degree in other mucous membranes. But the implication is strong that there is a similarity of action by parasitic bacteria, perhaps more or less selective for each mucous membrane, and a similar reaction by the respective living epithelial cells.

The normal human conjunctiva is composed of from three to ten layers of living epithelial cells. The superficial layers of cells are progressively flatter, broader, and less vital as compared to the younger cells of the deeper layers. The steady development of new epithelial cells is dependent upon the subconjunctival blood and lymph supply which is quickly and greatly increased by local irritation, thereby proportionately accelerating the growth of new conjunctival cells. This process has a distinct and important bearing on the course and termination of conjunctival infections.

Although the discussion of this paper is almost wholly confined to the conjunctiva, brief references will be made to the cornea. The cornea is composed of five different membranes, but only the external one is ectodermal in origin. This membrane is a continuation of the conjunctiva and is normally composed of from five to seven layers of living epithelial cells, all of which are flatter and less vital than those of the conjunctiva. The difference in vitality is due to the fact that the corneal epithelial cells have no substratum of blood and lymph vessels, such as has the conjunctiva, to maintain and accelerate the generation of new cells. Whatever normal or emergency nutrition the corneal cells have over and above that possibly provided by the meager lymph supply of the substantia-propria layer of the cornea through the almost impervious homogeneous external limiting membrane, undoubtedly comes from the subconjunctival vessels at the periphery of the cornea. These structural differences in the epithelial cells of the conjunctiva and the cornea most likely account for their different reactions to parasitic microörganisms.

In acute infections of the conjunctiva there are two major processes going on more or less simultaneously: the one including the offensive factors due to the invading bacteria; the second including the defensive factors induced by the invaders and stimulated to action by the tissue attacked. It is more than likely that other factors exist in addition to those which are to be mentioned and that the relative importance of one or more factors will be modified as the result of future investigation. Furthermore, it is not intended to imply that the reconstruction to be developed in this discussion is a completely accurate account of a conjunctival infection; it is rather an attempt to visualize the successive steps in both the offensive and defensive mechanism as have been revealed by a careful study of specimens taken from the eye at different intervals.

I. THE OFFENSIVE FACTORS

These factors refer entirely to the action of parasitic bacteria on the conjunctiva. The manner of primary growth, extension and penetration of the organisms, and the effects that they have on the cells at different stages are the factors to be explained.

A. *Fixation of Bacteria on the Conjunctival Cells.* When a parasitic microörganism like the gonococcus is carried into the conjunctival sac of a human individual, it quickly attaches itself somewhere on the surface of the normal conjunctiva. The parasite finds an adequate food supply on its host and in a few hours forms, by multiplication, a small turflike growth of organisms around the original gonococcus. The bacteria proliferate in a single layer, so that each

organism is attached to the surface of a living epithelial cell (Fig. 1). Furthermore, each organism becomes the focus of a new proliferation, which means that extension takes place by geometric progression, limited only by the food supply and by the space required for the organism to hang on.

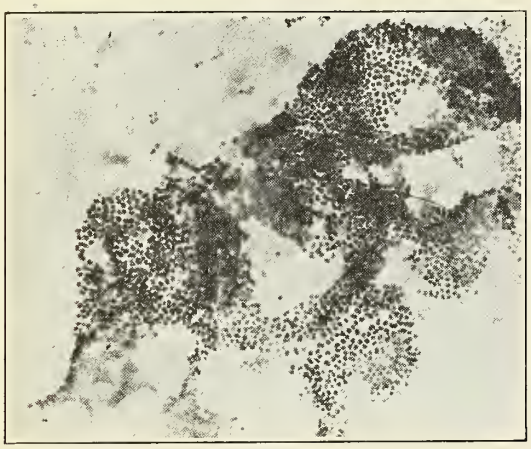

FIG. 1
Gonccocci growing turflike on the anterior surface of epithelial cells of the conjuctiva. X 1000

B. *Extension of the Bacteria.* The beginning of inflammatory symptoms is dependent upon the rate and extension of the proliferation of the bacteria on the surface of the conjunctiva. The infection spreads as bacteria are loosened from the host's cells by movement and pressure of the eyelids, or even by the increased lacrimation, which, as will be pointed out later, is a defense reaction. In this way bacteria are here and there removed from the area where they originally developed and settle upon a more or less distant part of the conjunctiva, each one setting up a focus of new infection. In the course of time, generally not more than a few days, the entire conjunctiva, both bulbar and palpebral, is involved by the parasitic organisms.

The period of complete involvement varies considerably since some bacteria proliferate much more rapidly than others. For example, infections caused by the pneumococcus or the Koch-Weeks bacillus generally produce symptoms by the second day, sometimes even as early as the end of the first day. Scrapings made from inflamed areas at that time and stained with Giemsa show epithelial cells covered with a turflike growth of organisms. On the other hand, a gonococcal inflammation is rarely observed before the third day after the introduction of the initial organisms.

In the case of the three microörganisms mentioned above, the proliferation generally begins on the bulbar conjunctiva, spreads at first rapidly over its entire surface and then more slowly and more sparsely over the palpebral conjunctiva. In all stained specimens which disclose connecting epithelial cells with turflike growths of bacteria, the greatest concentration of bacteria is seen at the cell borders (Fig. 2). One explana-

FIG. 2
Concentration of Koch-Weeks bacilli at the borders of connecting epithelial cells. X 1000

tion is that the food supply is more plentiful at that location. Another is that the greater concentration as seen through the microscope is merely due to the fact

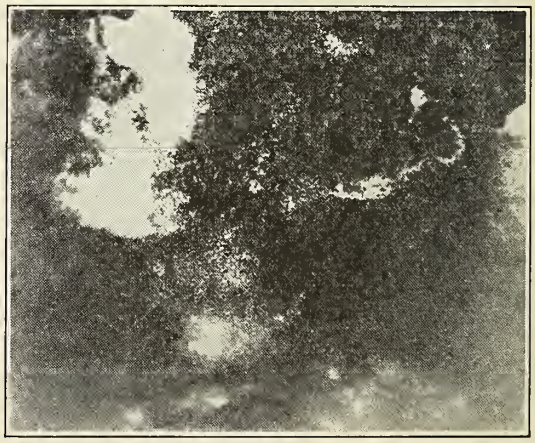

FIG. 3
Pneumococci scraped from the surface of clear cornea. No epithelial cells. X 1000

that one is looking down upon the bacteria that are growing upon the slanting or vertical margins of the cells. It is an astonishing observation to find that the cornea also is covered early with a dense growth of bacteria without exhibiting any clinical evidence whatsoever of an infection (Fig. 3). It is true that in the case of the gonococcus an ulcer of the cornea may form later in the course of the infection, but long before this occurs the turflike growth of bacteria has probably completely disappeared from the corneal surface. It is quite likely that a combination of other factors is responsible for the formation of an ulcer.

C. *Penetration of the Bacteria due to the Action of Certain Bacterial Derivatives.* 1. Whenever the epithelial cells have harbored a growth of bacteria for a few hours or less, breaks are found to occur at the borders of the cells and this permits an extension of the bacterial growth around the margins of the cells. Since dead bacteria with their resultant endotoxins are absent at this stage, it has been postulated that the ectotoxins[1] of bacteria growing on the surface of the living cells bring about the dissolution of the intercellular-cement substance. This in turn allows the bacteria to penetrate to the deeper tissue, so that the bacterial growth progresses not only around the margins of the cells but even on the posterior surface of the cells. This can be seen from stained scrapings made at this time. The dissolution of intercellular—and interlamellar—cement substance and the invasion of bacteria continue until all the cells and all the layers become affected to a greater or less extent (Figs. 4 and 5).

2. The secretion by certain bacteria of substances known hypothetically as *aggressins* has the power of keeping leucocytes away from the bacteria. Just how much part the aggressins of the bacteria play in the offensive mechanism against a mucous membrane it is impossible to state; nevertheless reference to these bacterial derivatives should be included here because it is possible that they may add to the complications and severity of the disease. In the case of the virulent staphylococcus and streptococcus hemolyticus and streptococcus viridans, which, by the way, have not definitely been proved to be parasites producing acute inflammation of the conjunctiva, an aggressin called *leucocidin* has been demonstrated which has the power of injuring or of actually killing leucocytes. In the case of the streptococcus hemolyticus and the staphylococcus the ectotoxins also produce hemolysis of blood cells. In addition, the streptococcus hemolyticus secretes a specific toxin, as for example in scarlet fever[2], erysipelas, puerperal fever, etc. However, the streptococcus viridans[3] liberates an allergizing substance, which increases the susceptibility of the tissues to the toxicity of the bacteria and its products.

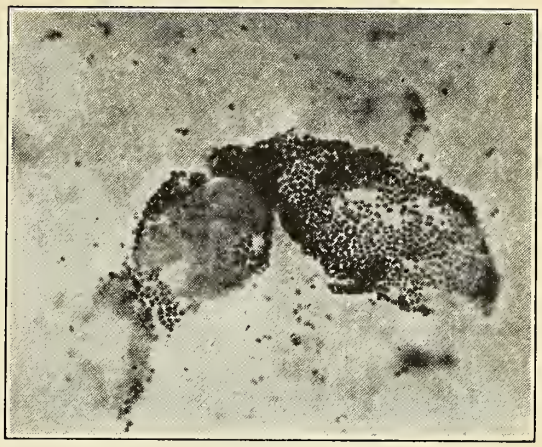

FIG. 4
Gonococci growing on the anterior surface of three epithelial cells. Lindner's contrast stain. X 1000

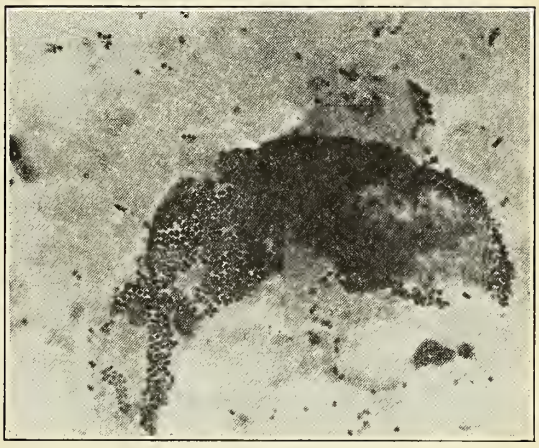

FIG. 5
Same cells as Fig. 4 showing gonococci on the posterior surface of the cells. X 1000

3. The possession of a capsule by bacteria as exemplified by the pneumococ-

cus, bestows upon the organism a definite and important weapon of offense. The capsules differ chemically for the fixed types of pneumococci[4] and each is therefore immunologically specific and unrelated. Consequently immunity against one type of pneumococcus does not protect against infection due to the other types. It is known, moreover, that the capsular material is associated with the degree of virulence[5] and invasiveness of the pneumococcus; so that the more stable the combination of carbohydrate to the proteins of the organism[6], the more invasive is the organism. Thus, Type I Pneumococcus, which possesses the carbohydrate in the strongest chemical linkage, is the most invasive of the fixed types. The virulence of encapsulated bacteria may well be due to the fact that normal body cells are not capable of phagocytosing such organisms. Until the body acquires a distinct resistance or immunity, the bacteria are capable of unrestrained multiplication and invasiveness. However, the body tissues establish later in the course of the disease both a specific and a nonspecific resistance, which are able to combat successfully the effects of the infection. It is of interest here to point out that pneumococci are probably the most frequent cause of inflammations of the eye. Bacteriological studies conducted on pneumococcal infections of the eye indicate that strains of all three fixed types are capable of inducing ocular disease, but that Type I is by far the most virulent.

D. *The Bacteria that Produce Conjunctival Inflammation.* The gonococcus, the Koch-Weeks bacillus and the pneumococci have already been shown to be parasites of the human conjunctiva exerting a pathogenic role. The influenza bacillus which is morphologically similar to the Koch-Weeks bacillus has been credited with being a parasite capable of producing a mild conjunctivitis. In this infection there is only a slight proliferation of the organisms on the epithelial cells. The clinical picture is therefore quite in accord with the bacterial findings.

The diphtheria bacillus is also a conjunctival parasite but an infection with this organism is complicated by or rather associated with a membrane. Scrapings from the surface of the membrane reveal nothing but saprophytes. In order to obtain specimens showing the organism on the cells, it is necessary to lift a corner of the membrane and make a scraping of the conjunctiva beneath. Generally this procedure is complicated by bleeding which materially alters the staining reaction of the specimen.

There is no concrete evidence that the staphylococcus is a parasite for the mucous membrane of the eye. Nor is the Morax-Axenfeld bacillus a parasite, but since it grows in great abundance on the moist margins of the lids, especially at the outer canthal angle, it produces an ocular irritation and inflammation from the absorption of its toxins by the adjacent conjunctiva.

II. THE DEFENSIVE REACTION OF THE TISSUES

A. *The Mechanical Factors in the Reaction of Defense.*

1. *Exfoliation of epithelial cells.* When the cement substance which holds together the individual epithelial cells and the layers of cells is dissolved as described above, there is sooner or later an exfoliation of cells, sometimes in large patches. In one sense this exfoliation may be considered a defense reaction, since large numbers of bacteria are thereby eliminated. As successive layers of cells become superficial, they, in turn, are cast off until the bacteria finally disappear. But there are other factors than exfoliation that contribute to the disappearance of the parasites. Desquamation of the epithelial cells is also brought about and accelerated by cellular edema, which will be shown below to be due to irritation created by the bacteria.

2. *Lacrimation.* The irritation locally induced by the bacteria and their products leads first to lacrimation. The copious flow of tears obviously tends to wash away bacteria, certainly those lying free in the conjunctival sac.

3. *Hyperemia* and *edema.* The irritation finally creates a condition of hyperemia and edema of the subconjunctival tissue, which plays a defensive role in the following manner: While the epithe-

lial cover of the eye remains intact it is not possible for fluid to diffuse through from behind, but as soon as breaks in the wall follow the action of toxic substances, an oozing of serum from the subconjunctival tissue soon begins and later an increasing number of leucocytes appears to produce an exudate. Numerous bacteria are thereby carried by the current of fluids from the cellular structure outward into the conjunctival sac. Along with the exudation of serum and leucocytes a cellular edema occurs which, as has been already stated, accelerates the exfoliation of surface cells. The hyperemia and edema also stimulate an intense and increasingly rapid proliferation of new epithelial cells.

B. *Factors Normally Resistant to Infection.*

1. *Lysozyme.* Recent work[7] has shown that among the natural resistant forces of the eye there is a substance that has been called *lysozyme.* This enzyme has the ability to cause complete lysis, or dissolution, of some bacteria. Lysozyme is contained in tears and is particularly effective against the gram-positive organisms. The discovery of this property of tears is too recent to allow more than a passing reference to its possible role as a normally occurring agent of defense against bacteria.

2. *Phagocytosis.* Phagocytosis of certain bacteria is the normal property of body cells. Since the degree of phagocytosis is specifically increased in infection and immunization, it will be considered in greater detail below, when the immunity reactions are discussed.

C. *Factors Specifically Induced by the Infective or Toxic Agents.*

1. *Resistance of repaired tissue.* As the destroyed epithelial cells are replaced by new cells, there is a concomitant resistance developed against the destroying agent. The experiments of MacNider[8] on nephritis in dogs clearly illustrate this point. He has shown that in mild uranium-nitrate poisoning affecting the kidney, the epithelial cells of the proximal convoluted tubules are destroyed and replaced by new cells, which apparently are functionally normal but are no more resistant to the chemical agent than were the original cells. When, however, the uranium poisoning is severe the new cells that replace the destroyed cells exhibit a marked resistance to subsequent poisoning. This is obviously an extremely important defense and one which is not associated with the presence of specific antibodies.

2. *Phagocytosis by leucocytes.* While phagocytosis apparently plays an important part in the recovery from many infections, it is not clear how the process is accomplished, nor is it certain that it plays more than a minor part in the defense in the case of conjunctival infections. Some observers even feel that phagocytosis is fraught with certain disadvantages to the body, particularly in that the phagocytes act as vehicles in transporting the bacteria from one area to another. This, of course, could not be claimed for an external eye infection. There can be no doubt, however, that phagocytosis actually aids in the destruction of bacteria. As a general rule the capacity to ingest bacteria is a normally occurring function. This is seen most strikingly in infections due to organisms like staphylococcus and streptococcus. Consequently an increased resistance in such a case merely implies the exaltation of a capacity already present. On the other hand, phagocytosis of encapsulated bacteria, such as pneumococcus, does not occur normally, as has already been mentioned, and can be stimulated as a new function only by artificial immunization or infection. In the latter case it is now known that phagocytosis occurs because of the presence of specific antibodies in the serum, formed *de novo.* This is demonstrated, when immune serum is administered during the course of infection, by the fact that phagocytosis by the body's own cells immediately occurs when the serum is provided.

Phagocytosis is accomplished by the leucocytes, particularly the polymorphonuclear and the mononuclear cells. Usually the polymorphonuclear cells are the first to participate in this process, and the relative number of these cells usually indicates the degree of acuteness of the infection. Subsequently the mono-

nuclears appear and phagocytose so vigorously that they ingest not only bacteria but polymorphonuclear leucocytes and dying tissue cells as well.

In all stained sections of the conjunctiva examined by the writer he has never seen leucocytes with ingested bacteria lying within the epithelial structure. It may be that the leucocytes have not the power to pick off bacteria clinging tenaciously to the epithelial cells, and that the passage of the leucocyte through the fissures in the mucosa is too rapid to be effective against the parasites. On the other hand, we are able to obtain material from the conjunctival sac, at the proper stages in acute purulent infections of the conjunctiva, that contains many leucocytes with ingested bacteria.

3. *Phagocytosis by tissue cells as exemplified by conjunctival epithelium.* It is a well-known fact that certain fixed cells like those of the spleen and liver[9] have the power of phagocytosing foreign substances, including bacteria. Some years ago it was pointed out by Lindner[10], Pascheff[11], and later by the writer[1, 12], that in certain acute conjunctival infections, like that due to the gonococcus, phagocytosis of bacteria by some of the newly formed epithelial cells takes place. The term *phagocytosis,* of course, connotes not only ingestion but digestion. In a gonococcal infection it occurs early in the second week of the disease, and seems to be one of the last lines of defense against the invading organisms. In order to show that the bacteria have been ingested and that they are not merely growing on the surface of the cells as they do on the superficial cells in the early stages of the disease, it is necessary to use wet-fixation methods of preparing the conjunctival scrapings. These methods prevent the drying and collapse of the cells and permit them to maintain their original shape to a high degree. Within the protoplasm of a cell thus prepared and then stained with Giemsa solution it has been possible to count as many as thirty well-stained gonococci by focusing upon several successive planes of the cell with an oil immersion lens. That this is a true phagocytosis is suggested by the finding of other epithelial cells containing gonococci which are practically unstained and finally cells in which the organisms appear to be disintegrating. In other words, we apparently see here the same processes of ingestion and digestion of bacteria that are universally ascribed to leucocytes.

In cases of gonorrhoeal ophthalmia in children who usually do not require treatment with a foreign protein, this process of epithelial-cell phagocytosis has been observed to continue for two or three weeks. The process has also been seen in cases of pneumococcal conjunctivitis, but in this disease the bacteria disappear from the tissues generally on the third day, so one must make frequent and early scrapings in order not to miss seeing this phenomenon. In infections of the conjunctiva by the Koch-Weeks bacillus, the process of epithelial-cell phagocytosis is probably more pronounced than with any other organism, but here, too, the invaders disappear completely by the third or fourth day.

4. *Antibodies.* Since the formation of antibodies requires a definite period of time approximating a week, it is evident that whatever part is played by them in an infection must occur after the infection has been running for at least that length of time. We have seen how in phagocytosis by leucocytes the presence of serum antibodies—known as *tropins* in this case—play a preparatory role in the ingestion of bacteria, The presence of *agglutinins* also assists phagocytosis by rendering bacteria immobile and coating them with immune serum. In a similar fashion *precipitins* render insoluble material in solution and in this way phagocytosis is accomplished at the same time that the material is made less diffusible. Complement-fixing antibodies possess the property of lysing or dissolving bacteria. It is questionable, however, whether antibodies exert a great influence in conjunctival infections which are well localized. It is known that local infections may give rise to a local immunity where phagocytosis[13] by leucocytes plays the predominant role. Furthermore, there is no evidence that the same area of conjunctiva is involved more

than once in the course of the same acute infection.

5. *Immunity in the absence of antibodies.* The experiments conducted on local infections of the skin with pneumococcus provide analogies which are quite *a propos* in this connection. Following such infection, no specific agglutinating or protective antibodies are demonstrable in the serum of the recovered animals.[14] Nevertheless, the animals show a high degree of acquired resistance to subsequent infections and, peculiarly enough, the resistance is equally effective against infection not only by the type of pneumococcus present in the original infection, but against infection by the other types as well. Furthermore, this variety of resistance cannot be transferred from one animal to another. It would seem, therefore, that in localized infections the resistance acquired is purely a local tissue resistance in which even phagocytosis by the leucocytes is absent. In the light of our present knowledge it is difficult to explain this phenomenon. It has been suggested that an enzyme is formed which is capable of dissolving and digesting bacteria. This would appear possible from the fact that the bacteria in local infections frequently lose their antigenic properties and consequently specific antibodies are not found. It is obvious that we still have much to learn regarding the nature of local tissue resistance. As far as the conjunctiva is concerned, whatever resistance is developed is certainly only temporary in character.

SUMMARY

I. *The offensive factors in acute conjunctival infections.*

A. The *fixation* of parasitic bacteria on the epithelial cells of the conjunctiva, where, due to an adequate food supply the bacteria multiply in a single layer, each organism being attached to the surface of a living cell.

B. The *extension* of the bacteria over the surface of the conjunctiva, both bulbar and palpebral, and also of the cornea proceeds rapidly by geometric progression.

C. The *penetration* of the bacteria into the epithelial-cell layers is due to the presence of certain bacterial derivatives.

1. The *endotoxins* disintegrate the intercellular and interlamellar cement substance, permitting the bacteria to grow around the margins and also on the posterior surface of the cells. Thus all layers may become involved.

2. Certain bacterial products known as *aggressins* have the power of keeping leucocytes away from bacteria. In the case of the streptococcus (two forms) an aggressin called *leucocidin* actually kills leucocytes.

3. The possession of a *capsule,* as exemplified by the pneumococcus is a definite and important weapon of offense.

D. The gonococcus, pneumococcus (especially Type I) Koch-Weeks bacillus, influenza bacillus and diphtheria bacillus are parasites of the human conjunctiva capable of producing acute inflammation.

II. *The defensive factors in acute conjunctival infections.*

A. The mechanical factors.

1. The *desquamation* of infected cells sometimes in large patches eliminates many bacteria.

2. *Lacrimation* is responsible for washing away loose bacteria and débris.

3. By the action of *hyperemia* and *edema* of the subconjunctival tissue, an oozing of serum and later of leucocytes through the breaks in the epithelial cover carries away numerous bacteria by the mere force of the outward current. This exudation also accelerates the exfoliation of cells.

B. The normally existing factors.

1. An enzyme, called *lysozyme,* normally found in tears has the power of causing lysis or dissolution of many bacteria.

2. *Phagocytosis of bacteria* is the normal property of certain body cells. This property is greatly increased during infections (see below).

C. Factors specifically induced by the infective or toxic agents.

1. *New epithelial cells* replace the older and more superficial cells at a rapid rate. These new cells develop a specific resistance to the infective agents.

2. *Leucocytic phagocytosis* is chiefly effective in ingesting bacteria which have been loosened from the mucosa but there

is no evidence that leucocytes have the power of removing bacteria that are clinging tenaciously to the epithelial cells.

3. *Phagocytosis of bacteria* by the newer epithelial cells of the deeper layers evidently occurs as a sort of last line of defense against the invaders. It is believed that bacteria thus ingested are quickly killed and have no power of multiplying within the protoplasm of the cell.

4. *Antibodies* probably exert no appreciable influence in conjunctival infections, because their formation generally requires about a week. In conjunctivitis due to the pneumococcus or the Koch-Weeks bacillus where the organisms generally disappear by the third or fourth day it is obvious that antibodies play no part in the defense.

5. A temporary *local immunity* occurs in conjunctival infections.

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REPORT OF COMMITTEE ON NECROLOGY*

B. R. Riley, M.D., Chairman
Benedict, Kansas

The number of physicians who have died in Kansas, during the last year, is 59. The average age was 67 years. Of the ages reported, the eldest was 95 years old, and the youngest, 32 years old.

Cause of the deaths is classified as following: Tuberculosis, 1; cerebral hemorrhage, 8; carcinoma, 5; heart lesions, 15; pneumonia, 5; senile dementia, 2; duodenal ulcer, 2; septicaemia, 2; diabetes mellitus, 1; nephritis, 3; killed by automobile accidents, 5; gunshot wounds, 2; arteriosclerosis, 2; leukemia, 1; and unclassified, 5.

Sixteen physicians were reported to have located in cities of second and third class in the state of Kansas, during the past year.

KANSAS PHYSICIANS WHO HAVE DIED BETWEEN APRIL 15, '31, AND APRIL 15, '32

William David Gurden, Topeka, aged 37 years, died May 30, 1931, of tuberculosis peritonitis. He graduated from Meharry Medical College, Nashville, Tenn., May, 1927. His pre-medic work was received at the University of Kansas. He took State Board of Tennessee, licensed in Kansas by reciprocity in 1928. He was a member of Shawnee County Medical Society, Nellie John's Medical Society, Kansas Medical Society, Dental, and Pharmaceutical Society. He was proposed for election to the staff of Christ's Hospital, Topeka, just prior to illness.

John Harold Powers, McPherson, aged 55 years, died June 15, 1931, of cerebral hemorrhage. He graduated from the University of Kansas School of Medicine in 1904. He was a member of the McPherson County Medical Society, Kansas Medical Society, and the A.M.A. He was in charge of the Winfield hospital for three years, of the Hoffman Memorial Hospital, Little River, Kansas, for fifteen years, Santa Fe R. R. surgeon at Little River and examiner for different life insurance companies.

Frank L. Abbey, Newton, aged 70 years, died June 25, 1931, of carcinoma of prostate. He graduated from College of Physicians and Surgeons, Kansas City, in 1897. He was a member of Harvey County Medical Society, Kansas Medical Society, A.M.A., and American Radium Society. He was secretary for Harvey County Medical Society for many years and superintendent of Sunday School of the First Congregational Church of Newton for more than twenty years.

D. E. Foristall, Republic, died July 2, 1931, of myocarditis.

Wm. C. Hall, Coffeyville, aged 70 years, died July 4, 1931, of prostatitis and pneumonia. He was a member of Montgomery County Medical Society.

*Report of Committee at 74th Annual Meeting of the Kansas Medical Society, May 3, 4 and 5, Kansas City, Kansas.

James Harvey Stallard, aged 73 years, died July 7, 1931, of carcinoma of the liver. He graduated from Barnes Medical College, St. Louis, 1901.

Marcus Arthur Newell, Leavenworth, aged 63 years, died July 10, 1931. He graduated from the Medical Department of Columbia College, New York, in 1890.

Alfred R. Haas, Ellinwood, aged 60 years, died August 19, 1931, of septicemia in Great Bend. He graduated from University Medical College of Kansas City, 1901.

Chesley C. Uhls, White City, aged 69 years, died August 29, 1931, of cerebral hemorrhage and chronic nephritis. He graduated from Missouri Medical College, St. Louis, 1887.

William Henry Yandell, Piedmont, aged 61 years, died September 4, 1931, of arteriosclerosis, myocarditis and nephritis in a hospital at Wichita. He graduated from Louisville (Ky.) Medical College, 1901.

John C. Rudolph, Lawrence, aged 69 years, died September 11, 1931, of carcinoma of the stomach and duodenum. He graduated from Maryland Medical College, Baltimore, 1900.

Western Cass Loomis, Wichita, aged 51 years, died October 9, 1931. He graduated from University of Illinois College of Medicine, Chicago, 1910.

Charles B. Van Horn, Topeka, aged 59 years, died October 16, 1931, of diabetes mellitus in Stormont Hospital. He graduated from Medical Department of Washburn College, Topeka, 1904. He was a member of the Kansas Medical Society, and attending physician to the Kansas Boys' Industrial School.

Elbert D. Beckner, Hoxie, aged 53 years, died October 20, 1931, of cerebral hemorrhage. He graduated from the University of Nashville (Tenn.) Medical Department in 1906. He was not a member of the Society.

Floyd W. Noble, Florence, aged 52 years, died July 11, 1931, of cardiorenal disease. He graduated from the University Medical College, Kansas City, Mo., in 1905. He was a member of the Society.

Thomas Blakeslee, Neodesha, aged 87 years, died July 11, 1931, of cerebral hemorrhage. He graduated from Rush Medical College in Chicago in 1870.

John G. Evans, Winfield, aged 75 years, died July 22, 1931, of arteriosclerosis and cerebral hemorrhage. He graduated from the Medical College of Ohio in 1881.

John W. King, Hillsdale, aged 72 years, died July 25, 1931, of senile dementia. He graduated from Eclectic Medical Institute, Cincinnati, in 1883.

Frederick D. Morse, Lawrence, aged 92 years, died July 29, 1931, of bronchitis-pneumonia. He graduated from Rush Medical College in 1867. He had been a member of the Douglas County Medical Society, the Kansas Medical Society, and the American Medical Association. He was past president of county and state societies, a prominent mason, a deacon in the Congregational church, and one of the pioneer physicians of Kansas.

Jacob L. O'Dell, Pratt, (licensed, Kansas, 1918), aged 79 years, died July 31, 1931, in a hospital at Wichita, of chronic endocarditis with aortic and mitral insufficiency.

Jeff William Hayward, Kansas City, aged 46 years, died August 8, 1931, of pneumonia and encephalitis. He graduated from the University Medical College, Kansas City, Mo., in 1909. He was formerly coroner of Wyandotte county. He was a member of the Society.

Ernest Frank Day, Arkansas City, aged 54 years, died August 9, 1931, at St. Francis Hospital, Wichita, of duodenal ulcer. He graduated from University Medical College, Kansas City, Mo., in 1900. He was on the staff of Mercy Hospital, served in the World War and was for many years president of the board of education. He was a member of the Society.

William Edley McVey, Topeka, aged 67 years, died October 21, 1931. He graduated from Kansas City Medical College, 1888; professor of diseases of the nose, throat and chest, 1892-1913, and dean 1909-1913, Kansas Medical College, Medical Department of Washburn College; secretary 1896-1903, president 1903-1904, Kansas Medical Society; since 1914 editor of the Journal of the Kansas Medical Society.

Ulrich M. Griffin, Girard, aged 76 years, died October 25, 1931, of cerebral hemorrhage. He graduated from Homeopathic Medical College of Missouri, St. Louis, 1880.

Samuel Jennings Guy, Winfield, aged 76 years, died October 31, 1931, of senility and myocarditis. He graduated from Rush Medical College, Chicago, in 1881. He was a member of the Society.

Vilas E. Lawrence, Ottawa, aged 76 years, died November 1, 1931, of cerebral arteriosclerosis. He graduated from University of Michigan Medical College in 1883.

George Henry Litsinger, Topeka, aged 61 years, died November 3, 1931, of agranulocytosis. He graduated from University Medical College of Kansas City, 1900.

Max Mayo Miller, Arkansas City, aged 41 years, died November 6, 1931, of heart disease. He graduated from Northwestern University Medical School, Chicago, in 1918. He was on the staff of the Mercy Hospital and was a member of the Society.

Mike Clemont Jenkins, Pratt, aged 45 years, was killed November 13, 1931, when the automobile which he was driving was struck by a train. He graduated from Kansas City Hahnemann Medical College, 1911. He was a member of the American Academy of Ophthalmology and Otolaryngology; of the State Board of Medical Registration and Examination and on the staff of the Ninnescah Hospital.

Paul K. Gaston, Pratt, aged 59 years, was killed November 13, 1931, when the automobile in which he was riding was struck by a train. He graduated from American Medical Missionary College, Chicago, 1903. He was on the staff of the Ninnescah Hospital.

W. A. Thomas, Mapleton, aged 72 years, died November 13, 1931, of cancer of the prostate. He graduated from the Eclectic Medical College, New York City, 1891.

Edward W. Hawthorne, Gypsum, aged 77 years, died November 17, 1931, of myocarditis. He graduated from the University Medical College of Kansas City, Missouri, in 1894. He was a member of the Society.

Clarence Alonzo McGuire, Topeka, aged 69 years, died November 24, 1931, of organic heart disease. He graduated from Rush Medical College, Chicago, 1884. He was formerly professor of clinical medicine, Kansas Medical College, Medical Department of Washburn College; president of the Kansas State Board of Health and on the staff of the Jane C. Stormont Hospital.

Leon William Shannon, Hiawatha, aged 61 years, died December 4, 1931. He graduated from Rush Medical College, Chicago, 1899. He was president of the Brown County Medical Society.

Benedict Athanasius Spaulding, Jr., Arkansas City, aged 32, died December 17, 1931, of a gunshot wound inflicted by his wife. He graduated from University of Louisville (Ky.) School of Medicine, 1926. He was a member of the Kansas Medical Society.

Eugene Smith, Lawrence, aged 85 years, died December 21, 1931, of myocarditis. He graduated from the Rush Medical College in 1879. He had been a member of the County Society and the A.M.A. He was demonstrator of anatomy, University of Kansas, for twenty years; head of Health Service, 1906-1927, Kansas University. He practiced in Burchard, Nebraska, from 1881 to 1898. Arrived in the first train that went that far West.

S. W. Dutton, McCracken, aged 90 years, died January 3, 1932, of arterio-

sclerosis in Ness City. He was licensed in Oklahoma under act of 1908.

Homer Michener, Wichita, aged 68 years, died January 5, 1932, of angina pectoris. He graduated from Eclectic Medical College, Cincinnati, in 1890. He was not a member of the Society.

John F. Costello, Howard, aged 79 years, died January 13, 1932, of cardio renal disease. He graduated from Medical College in 1880.

George E. Baudry, Atchison, aged 66 years, died January 23, 1932, of septicaemia and cerebral hemorrhage. He graduated from the Hahnemann Medical College, Chicago, in 1893. He was not a member of the Society.

Arthur Benjamin Cullum, Chanute, aged 67 years, died January 24, 1932, of angina pectoris. He graduated from Kansas City Homeopathic Medical College in 1894. He was a member of the Society.

David F. Ingles, Wichita, aged 74 years, died January 28, 1932, of chronic nephritis. He graduated from Medical College of Ohio, Cincinnati, in 1881. He was not a member of the Society.

Sara E. Greenfield Stephenson, Topeka, aged 57 years, died February 19, 1932, at Stormont Hospital of lymphatic leukemia. She graduated from University of Illinois College of Medicine, Chicago, in 1900. She was appointed bacteriologist for the Kansas State Board of Health and served in that capacity from 1903 to 1920. Prior to her appointment she had practiced medicine at Sabetha, Kansas. At the time of her death, she was not a member of the Society.

Luther A. Corwin, Goff, aged 71 years, died February 24, 1932, of heart disease. He graduated from University Medical College of Kansas City, Missouri, in 1890. He was not a member of the Society.

Martin Kirsch, Abilene, aged 83 years, died February 27, 1932, as result of an automobile accident on February 14. He graduated from Homeopathic Medical College of Missouri, St. Louis, in 1880. He was not in practice and was not a member of the Society.

Charles James McGee, Leavenworth, aged 56 years, died February 29, 1932, at Horton, from injuries received in an automobile accident. The car in which he was a passenger turned over. He graduated from University Medical College, Kansas City, Mo., in 1902. He was a member of Leavenworth County and State Medical Societies, A.M.A. and American College of Surgeons. He was city health officer, consulting surgeon at Kansas penitentiary, and an honorary member of the Kiwanis Club.

Archie O. Burton, Wichita, aged 75 years, died March 1, 1932, of coronary embolism. He graduated from University of Louisville (Ky.) School of Medicine, 1879.

Walter Johnson Aldrich, Independence, aged 66 years, died March 9, 1932, of double pneumonia. He was a member of Montgomery County Medical Society, coroner of Montgomery county for six years. He graduated from Bellevue Hospital Medical College, New York, in 1893.

George W. Walker, Melrose, aged 77 years, died March 11, 1932, from injuries received when struck by an automobile. He graduated from the Medical Department, University of Louisville, in 1897, was licensed in Kansas under first license law in 1901, and a member of Cherokee County Medical Society as far back as there is any record.

John W. Smoot, Fulton, aged 66 years, died March 15, 1932, after a brief illness of nephritis. He was a practicing physician at Fulton for 45 years.

Samuel H. Kellam, Cherryvale, aged 64 years, was found March 15, 1932, shot to death along the road, supposedly by robbers. He was a prominent physician in Cherryvale for thirty years and president of the Deering Packing Company. He graduated from College of Physicians and Surgeons, Kansas City, in 1900. He was not a member of the Society.

J. G. Kennedy, Elk City, aged 67 years, died March 29, 1932, of pneumonia.

Charles A. Ruggles, Stafford, aged 77 years, died November 24, 1931. He registered under the old law which did not require a degree from a medical college.

Worthington Hooker Osborne, Hutchinson, aged 83 years, died March 16, 1932, of arteriosclerosis. As a doctor of medicine, he last practiced in 1914.

Menno H. Hostetler, Wichita, died in Topeka on April 10, 1932, of angina pectoris. He was county health officer of Sedgwick County.

The following deaths were not included in last year's report, so are added in this year's statistics.

Paul Hullhorst, Topeka, aged 64 years, died February 5, 1931, of cerebral hemorrhage. He spent 43 years in the practice of medicine.

Alfred B. Bruce, Syracuse, aged 63 years, died April 2, 1931, of carcinoma of prostate. He spent 40 years in the practice of medicine.

Wyndert Van Patten, Jr., Sterling, aged 95 years, 9 months, died April 14, 1931, of senility. He spent 65 years in the practice of medicine.

Benign Tumors of Stomach

Bruce C. Lockwood, Detroit (Journal A.M.A., March 19, 1932), gives the relative incidence of benign to malignant growths in the stomach as about 1 to 20, as shown by the records from both operating and autopsy rooms. The percentage of diagnosed cases of benign tumors would be increased by more frequent and more careful fluoroscopic study. The roentgen observations are reasonably characteristic. In order to demonstrate the smaller lesions, the stomach must contain only small quantities of the contrast mixture, the walls must be approximated by manual pressure, and the patient must be examined in both the upright and the prone position. The symptoms are not typical; they vary with the site, size and character of the lesion, and may simulate other forms of indigestion. Because of the tendency of these slowly growing benign tumors to become malignant, their recognition is important and their surgical removal indicated.

UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

Faith in Medicine*

Thomas G. Orr, M.D.
Department of Surgery

Deep interest in a subject and faith are closely allied. The whole fabric of medicine has been woven by the work and thoughts of our predecessors which, to have faith, we must largely accept. Faith in the whole, however, does not mean that there may not be loyal doubts concerning its parts. With Sir Thomas Browne we may recognize that "reason is a rebel unto faith," but we must not lose sight of the fact that our reasoning may be faulty. When the discouraging features of medicine (and there will be some) begin to shake your faith, turn for a moment to thoughts outside of our profession. If you are a real physician, a short sojourn into other fields of study will soon bring you up short with a realization that there are more things that count in life to be found in the broad range of medicine than in any other realm of learning.

To maintain faith in medicine one must have faith in himself. Such is not conceit. If a doctor has a thought he considers original, he should pursue it until its worth or its worthlessness is proven. It is a privilege to think and such a privilege is difficult to abuse. Too often we underestimate the power of our own thoughts and awake to find that "In every work of genius we recognize our own rejected thoughts; they come back to us in certain alienated majesty" (Emerson). There is not a physician among you, who is not qualified to add something to the sum total of medical learning. You will all make many interesting and unusual observations during your years of practice. It is your duty, not only to yourself, but to your profession to record your worthwhile observations. They may not be epoch-making. They need not be epoch-making. If they do nothing more than aid your

*Presented at a special meeting of the Jackson County, Missouri, Medical Society for the Internes of Greater Kansas City.

local medical society, they will have served a useful purpose. Kipling remarks: "when little boys have learned a new bad word, they are never happy till they have chalked it up on a door. And this also is literature." We all know little boys are not afraid to publish their new found thoughts, but not so with grown-ups. Fear of criticism has kept many a man in useless restraint. To dispel this fear it is well to remember that the individual who criticizes most is usually not a real critic, and his frequent expressions of opinion only lead the thoughtful to a respectful consideration of the criticized. Early avoid following into the class that Osler calls the "voiceless of the profession." A good start in medical activities before the age of forty will carry you through the next twenty years with little effort. Take to heart the further advice of Osler when he says, "Pay no heed to the Betrachians, who sit croaking idly by the stream. Life is a straight plain business, but the way is so clear, blazed for you by generations of strong men, into whose labors you enter and whose ideals must be your inspiration."

As you advance in years you will be asked advice by young men concerning the study of medicine. Some of you may feel inclined to say that the ranks are already too full of doctors. Or you might be constrained to advise the life is too hard; choose a business with less work and more pay. If you have a son, you may tell your friends you do not care to have him follow in your footsteps and endure the hardships in medicine you have endured. If any such advice comes from your lips, you lack faith in your profession and it would have been well if someone had advised you early to choose other work. I never see a son succeed his father in medicine that it does not stimulate my admiration of both. It is evidence the father has faith in medicine and the son has faith in the father.

Much has been said recently concerning the high cost of medical care. Medical care in general is expensive. But is medical care essential to life? If it is, compare its cost with other necessities of life. What about our food, our clothing, and a place to sleep? It is as necessary to provide for one as the other. The need of medical care at some time in life is not quite as sure as death, but it runs a close second. There is no profession, except perhaps the ministry, that is as willing to give of its time and sacrifice income for the public welfare as is the medical profession. And this is as it should be. Such service is a tradition in medicine. The cost of medical care in specific instances may be too high but in general this is not true. One may say with more justice that the complaint is better traced to a lack of appreciation of the cost of medical care on the part of the public. They make no provision for one of the necessities of life.

What of our faith in the future of medicine? Will it be shaken by state medicine, irregular cults, activities of big business, or commercialization? "When was age so crammed with menace? madness? written, spoken lies?" When Tennyson wrote these lines, things must have been astir in the public mind. Public and cult opposition in medicine is nothing new. Menace, madness, and lies have always been with us and will always exact their toll of indecision, worry, and care. Listen to public opinion, treat it with respect, but do not accept defeat at its hands.

When one reviews even casually the history of medicine, he cannot fail to be impressed by the obstacles that have been placed in its path of progress. Yet it has steadily advanced until it is now on a higher plane than ever in its history. Black insinuations and unjust legislation can not stifle advancement in medicine or lower its dignity.

The experienced have learned that the study of medicine fills a life-time. Medicine can not be treated as a stepchild if we hope to live with it on terms of peace. Benefits received are always in proportion to consideration given in medicine. Think of it as Dumas did his writing; not as work but a way of living joyfully.

Faith in anything involves the records of its past, the events of its present, and the possibilities of its future. Read the story of medicine in past ages, consider

its achievements of the present, and faith in its future will not be lacking. Take to heart the homely expression of the old blacksmith in Daniel Deronda, who said: "For the life of me I cannot see why anybody wants to be anything else but a blacksmith." That is faith!

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of
The Kansas Tuberculosis and Health Association

TUBERCULOSIS IN MEDICAL AND COLLEGE STUDENTS

Health examinations of students in high schools, colleges and universities are being applied more widely every year. Latent defects are thus brought to light and early treatment results in correction or cure of the incipient disease. Agencies for the control of tuberculosis have been among the leaders who stressed the importance of health examinations, and the value of the application of the tuberculin test and *x*-ray examination in the discovery of latent tuberculosis has been repeatedly demonstrated. The results of a recent investigation at the Henry Phipps Institute in Philadelphia into the incidence of tuberculous infection and tuberculous disease in medical and college students are presented below. Although the high incidence of tuberculosis in medical students may present a special problem the value of health examinations, here illustrated, has universal application.

Since medical students either during their medical course or in subsequent years often become ill with tuberculosis, a study was undertaken to determine the frequency and severity of tuberculous infection among medical and premedical students of the University of Pennsylvania. The usual methods of investigation into the incidence of tuberculous infection and disease were employed.

After the weight and height had been recorded, inquiry made concerning respiratory disease with which they had suffered and possible exposure to tuberculosis noted, students were given intracutaneous tuberculin tests, stereoscopic roentgenological examination of the chest and, when the latter revealed tuberculous infiltration of the lung, physical examination.

TABLE I

Results of the Tuberculin Test in College and Medical Students

STUDENTS	Number tested	Reacted to tuberculin
College		Per Cent
First year	64	84.4
Second year	68	80.9
Third year	67	92.5
Fourth year	37	83.8
Total	236	85.6
Medical		
First year	99	84.8
Second year	103	94.2
Third year	126	96.0
Fourth year	111	98.2
Total	439	93.6

Results of the tuberculin tests of 236 premedical and 439 medical students are shown in Table I. There was no continuous increase in successive classes of the number of premedical students who reacted to tuberculin, variations being doubtless dependent upon the small number in each class. The percentage of premedical students that reacted to tuberculin was 85.6 per cent. The number of medical students of the first year who reacted was approximately the same, namely, 84.8 per cent. In the second and third year classes the number who reacted was higher, and in the fourth year it reached 98.2 per cent. The continuous increase in the frequency of infection during the medical course corresponds with the increasing number of tuberculous infiltrations found by roentgenological examination.

TABLE II

Results of Roentgenological Examinations of College and Medical Students

STUDENTS	Number given roentgenological examination	No. with latent apical tuberculosis	No. with manifest pulmonary tuberculosis
College			
First year	78	1	1
Second year	79	3	0
Third year	81	3	0
Fourth year	41	2	0
Medical			
First year	98	3	1
Second year	103	12	0
Third year	129	14	4
Fourth year	122	16	9

TUBERCULOUS LESIONS FOUND

Table II shows the result of roentgenological examination of 731 medical and premedical students arranged in classes. Calcified nodules in lungs or lymph nodes represent tuberculous infection, usually acquired in childhood. Their opacity and sharp definition distinguishes them from the diffuse lesions that are listed in the table as latent apical tuberculosis and manifest tuberculosis. They are doubtless in process of healing but their presence does not exclude the occurrence of progressive tuberculosis.

Calcified nodules of the lungs or the adjacent lymph nodes without other demonstrable tuberculous lesion were found in 44 of 279 college students or 15.8 per cent and in 79 of 452 medical students or 17.5 per cent. In ten of 45 instances of latent apical tuberculosis in medical students and in three of fourteen instances of manifest pulmonary tuberculosis in the same group, there was associated tuberculosis of the tracheo-bronchial lymph nodes.

With the lesions designated as latent apical tuberculosis there have been no symptoms of tuberculosis, and physical examination has revealed no physical signs. The number of these lesions has been practically the same in students of the four premedical classes and of the first year class in medicine. They increase in number considerably in the second year and slightly in the two subsequent years.

Students with manifest pulmonary tuberculosis have had symptoms such as cough, hemoptysis, fever or loss of weight. Significant physical signs were rales, impaired resonance and restricted movement over the site of the lesion. Only one premedical student with manifest pulmonary tuberculosis was found.

One instance of clinically manifest tuberculosis was found in the first year medical class and none in the second year. In the third year class, however, there were four instances of pulmonary tuberculosis accompanied by symptoms or physical signs and in the fourth year class there were nine.

APICAL LESIONS

In Table III lesions found at the apex of the lung are classified in accordance with their extent. Shadows of doubtful significance, designated as suspected apical infiltration, were found in a considerable number of medical students, though it is uncertain whether these are due to tuberculous infiltration. It has been considered desirable to reexamine students with these anomalous shadows at repeated intervals.

In about 3 per cent of college students there was infiltration limited to the area above the clavicle, whereas 8.6 per cent of medical students had similar lesions, their number increasing from 3 per cent in the first year to 10 per cent in the fourth year. In some instances opaque salients project below the border of the second rib, and in all others there were soft scattered shadows throughout the area above the clavicle.

TABLE III
Analysis of Apical Lesions

	Number given x-ray examination	Supraclavicular apical infiltration	Apical infiltration extending below the clavicle
College			
First year	78	1	1
Second year	79	3	0
Third year	81	3	0
Fourth year	41	2	0
Medical			
First year	98	3	1
Second year	103	12	0
Third year	129	12	6
Fourth year	122	12	13

Conspicuous pulmonary infiltration extending below the clavicle was not found in students of the first two years, but occurred in 6 medical students of the third year and in 13 of the fourth year.

The number of young adults with apical lesions of tuberculosis increases gradually with increasing age, but the incidence of these lesions in medical students, increasing rapidly in successive years of the medical course, with astonishingly high incidence in students of the fourth year, indicates that they are peculiarly subject to grave tuberculous infection.

FURTHER STUDY INDICATED

The results of this investigation, confirming as they do, previous observations made at various medical schools

concerning the development of clinical tuberculosis in medical students and internes present a problem that requires further study. While the treatment of the individual patient differs but slightly from any other individual with a similar tuberculous lesion the cause of the high incidence of tuberculous disease in this group must be sought for and prevented.

"Tuberculosis in Medical and College Students"—H. W. Hetherington—F. Maurice McPhedran—H. R. M. Landis—Eugene L. Opie—Archives of Internal Medicine, Nov. 1931.

THE PHYSICIAN'S LIBRARY

An Experimental and Clinical Study of Pain in the Pleura, Pericardium and Peritoneum, by Joseph A. Capps, Professor of Clinical Medicine, University of Chicago, with the collaboration of George H. Coleman, M.D., Assistant Professor of Medicine, Rush Medical College, and a foreword by Anton J. Carlson, M.D., Dept. of Physiology, University of Chicago. Published by The MacMillan Company, New York. Price $3.00.

This monograph presents the results of prolonged study of pleural, pericardial and peritoneal pain and its radiation. Inasmuch as our knowledge of complex pain mechanisms is so meager, this book should prove to be of great practical interest to every clinician.—F. L. L.

Obstetric Education. Report of the subcommittee on obstetric teaching and education of the White House Conference on Child Health and Protection. 293 pp. $3.00. The Century Company, New York and London, 1932.

The findings of the subcommittee on obstetric teaching and education of the committee on prenatal care are discussed in this volume, and recommendations are offered to improve obstetric practice and to lower the present high maternity death rate in the United States. Conscious that the high maternal mortality rate is a reflection on the training and education of those who are charged with furnishing maternity care, the subcommittee made an appraisal of the training of physicians for obstetric practice, including undergraduate training and subsequent or graduate education, the obstetric education of nurses and nursing atendants; the history, status abroad and status in this country, education, and training of midwives; and the obstetric education of the laity and of social workers.

The subcommittee advocates more adequate professional training and points out the necessity of securing the recognition and support of the laity without which no comprehensive plan for maternal care will function properly.

For the purposes of this study, the subcommittee on obstetric teaching and education formed itself into various subdivisions under the chairmanship of Fred Lyman Adair, M.D. The undergraduate education of physicians was studied under the chairmanship of Palmer Findley, M.D.; graduate education of physicians, Rudolph W. Holmes, M.D., chairman; obstetric education of nurses and nursing attendants, George W. Kosmak, M.D., chairman; obstetric education of midwives, James Robert McCord, M.D., chairman; obstetric education of the laity and social workers, Robert L. De Normandie, M.D., chairman.—E. G. B.

Primer on Fractures, Second Edition, prepared by the Co-operative Committee on Fractures, under the Auspices of the Diction on Surgery, General and Abdominal, and the Diction on Orthopedic Surgery of the American Medical Association. Published by the American Medical Association, Chicago, 1931. Price $1.00.

This work is, true to its title, a primer on fractures. It is made up of pictures of the demonstrations of the treatment of fractures shown at the last four sessions of the American Medical Association in the scientific exhibits. These pictures are graphic line drawings, accompanied with legends setting forth the most salient points to be remembered in connection with the given case. All of the common fractures are thus demonstrated. There is also a condensed discussion of the subject of each picture, immediately below.

The book is very useful and instructive, and is calculated to impress the mind with the most essential things to be observed and remembered in this important field. It should not be forgotten that it is only a primer, however, and that it should be considered only a supplement to a thorough study of the anatomy and mechanics underlying every case of fracture. —O.P.D.

(Continued on Page XIII)

THE JOURNAL
of the
Kansas Medical Society

EARLE G. BROWN, M.D. - - - - Editor

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EDITORIAL

THE HEALTH MAGAZINE

"One general result of health education has been to stimulate the public to expect physicians, dentists, health officers and sanitarians to advise them how to keep well. This situation is one that has great potential value for the good of each community if those who have the responsibility and knowledge will capitalize their opportunities in assuming leadership in promoting health education."

The challenge to assume this leadership in promoting health education was met by the House of Delegates in 1931, with instructions to the Bureau of Public Relations to publish a popular health magazine through which might be disseminated authoritative information concerning disease and its prevention. The result was Folks and the July issue completes the first year of its existence. Favorable comments have been received from many sources in regard to the information contained in Folks. Many teachers have advised of its use in their schools for teaching health.

Surgeon General Cumming of the United States Public Health Service wrote of Folks: "Publications such as Folks are serving a very useful purpose in bringing to the general public authentic health information. It is a pleasure to commend the splendid work done by such publications under the direction of health authorities, medical societies, insurance companies and nationally recognized voluntary health organizations."

Dr. W. W. Bauer, Director, Bureau of Health and Public Instruction, American Medical Association, speaking before the annual meeting at Kansas City, said: "This medical society ought to be especially interested in Hygeia because of your own venture in publishing a health magazine for the laity. This is something new under the sun. State Boards of Health do it, of course, but so far as I am able to determine, no other State Medical Society has done so to date. I have no hesitation in saying your magazine is an excellent one; its circulation of more than 5,000 testifies to that. There is no doubt that it is sound in policy, dependable in substance and certainly it is attractively printed and illustrated. There may be need for both a strong national magazine and a number of state magazines which, by their very nature, would be more limited in circulation than a national magazine, as the best combined way to carry health to the people throgh the printed word. Perhaps a 50 cent magazine like yours will reach large numbers who could never be reached by a three dollar magazine. At any rate, in the publication of your magazine Folks, the Medical Society of the State of Kansas has accepted a challenge and is meeting a responsibility for carrying information about health to the people. Your pioneering should be watched by other societies."

The Kansas State Dental Association at their annual meeting in Wichita

through official action, pledged their cooperation in behalf of FOLKS.

It is expected the July issue of FOLKS will be mailed to more than 7,000 readers, for as this comment is written, the total is just short of 6,900.

Members of the society are urged to contribute articles for publication in FOLKS. The articles preferably should not exceed 500 words and should be so written as to be understandable by any reader.

Members are also invited to promote the circulation of FOLKS by sending yearly subscriptions for patrons. These subscriptions will be appreciated and show your patrons you are interested in them. County medical societies will promote health education in the schools by subscribing for FOLKS for the rural grade teachers.

DUST STUDIES

Studies by the Public Health Service have shown there is a great difference in the harmfulness of dust. Of those studies, the only dust which had a really serious or fatal effect upon the worker was that containing free silica. In the investigation of granite cutting plants, the majority of the workers were found to be exposed to an average of about 60 million particles of dust per cubic foot of air. The dust contained about 70 per cent silica, of which about 35 per cent was in the form of quartz or free silica. Under such conditions there was an almost universal occurrence of silicosis, and a large proportion of the workers developed pulmonary tuberculosis.

It was formerly considered the harmful effects of silica dust lay in the sharpness of particles, but now it is believed some chemical effect is present, associated with the slow dissolving of the free silica particles.

The highest concentration of dust was found in coal mining, both hard and soft. A large amount of dust was also found in a cement plant. This plant was not typical, but was chosen because a great deal of calcium was present. Although no permanently serious effects appeared in this investigation, the workers were subject to a higher frequency of upper minor respiratory diseases and some other conditions.

The other studies have added considerable information of a negative nature. In the concentrations found, dust encountered in silver polishing, in a cotton plant, and that to which street-sweepers were exposed, appeared to have no harmful effect upon the workers. In all of these cases the concentrations were relatively low. In the case of street-sweepers, however, the air breathed had a higher concentration than that to which the average city dweller is exposed.

The studies in question were not designed to cover all of the dusty trades in this country, but rather to consider specific types of dust. It is known silicosis and tuberculosis is a serious hazard in certain mining operations, and this question is under continual investigation by the United States Bureau of Mines. The pottery industry, subway construction in granite rock, and many other occupations have a severe silicosis hazard.

The mitigation of the dust hazard in industry is primarily a ventilation problem. In many industries steps have been taken to prevent the escape of dust into the room by surrounding the machine with a suction hood or other device that removes the dust as it forms. This removal of dust at its source is the most important step to be taken.

The important points are the seriousness of the dust hazard, the large number of workers exposed, the varying effect of different dusts, the fact that a

certain amount of dust has to be present before a hazard exists, and the necessity for removal of the dust at its source.

THE JOURNAL ADVERTISERS

The JOURNAL of the Kansas Medical Society is made possible largely through the fine co-operation of many firms who advertise their products in its columns. Some few firms have found it necessary in recent months to curtail their advertising; other firms have increased their space.

Products advertised in the JOURNAL are trustworthy, being Council-accepted products. Since these advertisers support your Journal, you should support the advertisers. When an advertiser offers to send you a trial sample, or literature, free upon request, *send for it.* Firms know their advertising pays only if you show it through your patronage.

Turn to page XI of the advertising section and note the firms patronizing the JOURNAL.

EDITORIAL COMMENT

At a special meeting of the nurses of District 1, Kansas State Nurses' Association, it was decided in view of present conditions to temporarily reduce the private nurses' salary to five dollars per day.

The American Board for Ophthalmic Examinations will hold an examination in Montreal on Monday, September 19, 1932, at the time of the meeting of the American Academy of Ophthalmology and Otolaryngology.

In 1931, 18,648 deaths were reported in Kansas. Doctors of Medicine signed 17,112 certificates, or 91.8 per cent; Doctors of Osteopathy, 318, or 1.7 per cent; Doctors of Chiropractic, 62, or 0.3 per cent; coroners, medical or lay, 1,099, or 5.9 per cent and local registrar, 57, or 0.3 per cent.

The Metropolitan Life Insurance Company reports a definite but gradual rise in mortality from ulcer of the stomach and duodenum since 1921 among adult white male industrial policyholders in the company. Their findings are pronounced increases in mortality among white males in all groups beyond 25 years, while the rate for white females show no important increases at any age.

Reports of sickness causing disability for more than one week among members of a group of industrial sick benefit associations and company relief departments reporting to the United States Public Health Service, show the sickness incidence or frequency rate during the first nine months of 1931 was practically the same as in the corresponding period of 1930, and 24 per cent less than the rate for the same months in 1929.

The common occurrence of corns on the feet indicates that something is wrong with our present day shoes. Most persons who are bothered with corns complain of those appearing on the small toe, although they are liable to appear on any part of a toe and on any or all toes. The reason for this is that there is not wood enough in the last of the shoe at this point. A broad toe last is always more comfortable, J. H. Finn maintains in *Hygeia.*

Gustave F. Weinfeld, M.D., writing in *Hygeia* on heart murmurs in children states: "The organic murmur in itself is not the most important sign of serious heart disease. Its intensity is not always proportional to the gravity of the lesion present. It may increase when the heart muscles grow stronger and even disappear when they weaken. Only a complete physical invoice can point the way to a proper diagnosis and to adequate treatment."

THE PRESIDENT'S MESSAGE

TWO PROBLEMS

To the Members of The Kansas Medical Society:

Two problems of especial importance to medical men today, are: first, the treatment of the indigent poor, and second, the drug addict.

In caring for pauper practice four methods appear available. The first is the employment of a whole-time physician. This settles the question in a very satisfactory and dignified manner, but necessarily is limited to the larger population centers. Second, the employment of a physician part-time; yet, the poor in their dignified pride largely refuse to patronize him.

The third plan is that in use in Allen county where the experiment has been tried of the physicians furnishing medical service at approximately half-price, thus permitting the sick pauper to select his own physician. The fourth plan is in effect in a limited number of counties wherein the county medical society is employed to furnish medical service to the indigent poor, for a stated sum, payment being made to the society's treasury.

In previous days when the demands of the people were not as great as the present time, the physician named to treat the poor, ordinarily rendered satisfactory service. However, now the commissioners state they cannot run a collection agency for the physicians and certainly the physicians should not donate their services to the pauper any more than the merchant should donate groceries or other necessities of life.

In my presidential address, your attention was directed to the menace of the drug addict. It is quite a surprise to me more attention has not been given this terrible disaster which has befallen so many young lives. Everyone, for his own benefit should acquaint himself with this type of perversion; the methods, lives and activities of some real "dope fiend." Fiends they truly are. Their cortical cells are so disarranged it would appear the Almighty Architect could not rearrange them.

In my opinion it is not possible to return the drug addict to normal. I have seen brothers and sisters threaten death in a frenzied explosion in which they thought the other had interfered with their obtaining the drug.

Through the persistent efforts of "dope fiends" many otherwise decent physicians have been sent through the portals of our penitentiaries. In their determination to satisfy their perverted drug desire, "dope fiends" have become a party to a vast number of our major crimes, for their morals, intellect and judgment are totally submerged in an effort to secure the drug.

This problem is so serious the legislature should enact laws to satisfactorily care for it. It would appear one of the best methods to consider would be a farm-home, where these individuals could be detained for a period of two or more years.

Respectfully submitted,

P. S. Mitchell

Iola, Kansas, June 20, 1932. President, Kansas Medical Society.

THE LABORATORY

Edited by

J. L. LATTIMORE, M.D., Topeka

Some comments devoted to the collection of blood for the Widal test, the clinical application and interpretation, should be of especial value at this season of the year.

There are two usual ways of collecting the blood and forwarding to the laboratory. The most common practice is to collect a drop of blood upon a glass slide, piece of paper or tin plate. Although the Widal test may be performed upon this drop of blood, I wish to severely condemn the practice, as proper dilutions cannot be made and the results are generally unsatisfactory. The correct method is to collect five cubic centimeters of blood, just as for a Wassermann test; in a sterile container and with no preservative or anti-coagulant. When the blood collected in this manner is delivered to the laboratory, there is sufficient serum to make as many dilutions as desired, and repeated tests if necessary.

The application of the results of the test needs some consideration of the time element, previous attacks of typhoid fever and whether or not the individual has previously been vaccinated against the disease. A positive Widal merely means the serum of the patient contains agglutinins for the typhoid bacillus, and a negative Widal, that these agglutinins are not present. Again, some individuals do not have the ability to develop these agglutinins in the presence of the typhoid bacillus, thus accounting for false negative reactions. In my opinion, repeated tests at five day intervals will clear the situation and definite results may be obtained during one of these periods. As a rule, the Widal reaction will not become positive until about the seventh to the tenth day; before this time, the blood culture should be used for diagnosis.

In interpreting a partial positive reaction, I consider agglutination of below 1:40 as not being diagnostic of typhoid fever; of 1:40 and 1:80 to be strong enough to warrant a tentative diagnosis, while a positive agglutination in dilutions above 1:80 warrant a positive diagnosis. In interpreting a positive reaction, consideration must be given to a history of previous infection with typhoid fever or a previous vaccination. Last month in this page, an abstract was given from Foords's paper, wherein he had demonstrated agglutinins present as long as nine years after vaccination.

The interpretation of other agglutination tests for Malta fever (undulant fever), tularemia and para-typhoid A or B should be considered about the same as the Widal, as all of these tests are based upon the body response to an infection.

There may be cross agglutination of the typhoid bacillus with paratyphoid A or B in the lower dilutions, but as the dilutions are increased, this cross agglutination is lost and the test becomes more specific. There is a very definite cross agglutination of abortus or melitensis, the cause of contagious abortion in cattle and Malta or undulant fever in man, respectively. There is also a definite cross agglutination between tularense and Malta or undulant fever. As a rule, the higher titrations will rule out the one. In a case of undulant fever, we may secure a positive agglutination for melitensis up to 1:1000, while tularense will give positive agglutination in only 1:20; the reverse is true in a case of tularemia.

There are two methods of performing the Widal test. One is the microscopic test where serum dilutions are mixed on the hanging drop slide with live typhoid bacilli. This test is satisfactory, but the source of error is higher than with the macroscopic killed antigen test. For the past three years, I have used the macroscopic test and find my results have been uniform.

The interpretation of the results of agglutination tests brings a point I have so often written about and again wish to emphasize. Failure of the attending physician to give certain data, the tentative diagnosis, or time of illness merely delays the diagnosis. This is especially true in the performance of the several agglutination tests. The laboratory worker is acquainted with the fallacies of these tests and with the co-operation of the attending physician, these fallacies may be reduced to a minimum.

RECENT MEDICAL LITERATURE

Edited by

WILLIAM C. MENNINGER, M.D., Topeka

Diabetic Gangrene—The arteriosclerotic type and the so-called diabetic gangrene are the most common of the various types of gangrene that may occur among diabetics. In order to obtain more definite information concerning the frequency of gangrene and the influence of diabetes upon the vessels the various degrees of circulatory deficiency should be evaluated. They may be graded as potential cases of gangrene, impending and actual gangrene, according to the extent of the occlusion. An analysis of 1008 cases of diabetes mellitus, observed during a period between 1920 and 1930, shows that there were 58 cases of existing gangrene (5.75 per cent); 28 cases of threatened or impending gangrene and 89 cases of potential gangrene. One out of every 17 or 18 diabetics developed gangrene and one out of every six showed evidence of impaired circulation. If the more recent 5-year-period (1926 to 1930) is considered, the incidence is higher: 6.78 per cent developed gangrene and 19.75 per cent had deficient circulation in the extremities. Diabetic gangrene is the end product of three main influences: the metabolic disturbances and their effect upon the vessels and the tissues, changes in the arteries with the resulting deficient blood supply to the parts, and infection. Of the group of patients with gangrene, all but two developed this complication when past 50. Gangrene may develop at any time in the aged diabetic. There were 10 cases of gangrene among those who had diabetes between 1 and 2 years, and 11 cases between 3 and 4 years. Of the 58 cases of gangrene, 16 resulted in amputations (27 per cent). The prognosis for the diabetic with gangrene is uncertain. There were 15 deaths in the author's series (26 per cent). This included both the surgical cases and those of patients who declined operations. The future of the diabetic who has once had gangrene is fraught with danger. He is always liable to a recurrence of the complication. The average span of life for those who have had gangrene with amputation of the extremity is considered about two years. To lower the incidence of gangrene in the diabetic and to increase his span of life, one must have cognizance of the high incidence of circulatory disturbances in these patients. Early recognition of arterial changes and an intelligent attempt to correct and improve the circulation may ward off complications until a sufficient collateral circulation has been established to make up for the deficient blood supply to the parts.

Diabetic Gangrene: Incidence and Pathogenesis: An Analysis of 58 Cases Among 1,008 Diabetics. David W. Kramer, M.D.: The American Journal of the Medical Sciences: 183-503-515, April, 1932.

How to Obtain More Autopsies—Pulford summarizes as follows:

1. A practical inexpensive method of getting a high percentage of autopsies applicable to almost any community is outlined.

2. Not having a highly paid pathologist available is not a real obstacle.

3. Sixty of the sixty-six patients who died at the Woodland Clinic twelve hours or longer after admission during 1930 were autopsied—90.91 per cent.

4. The time and expense incurred were more than justified by the increased knowledge of the physician and the consequent better handling of future patients.

5. A high percentage of autopsies can be obtained by merely stimulating enough interest in the doctors concerned to ask for them, and establish a close bond between doctor and relatives during the patient's illness.

6. The co-operation of the undertaker can be readily obtained by courteous treatment and assistance in making embalming easy.

D. Schuyler Pulford: Annals of Internal Medicine, 5:1315-1320, April, 1932.

The Relation of the Intestinal Tract and Diet to the Treatment of Arthritis—Following a report of twelve cases, Pemberton and Peirce conclude that dietetic therapy affords the best known of successful treatment in a large number of cases of arthritis. Such therapy should

be applied, however, to appropriate cases only, and on the basis of a familiarity with the principles concerned and with the limiting factors to which references are given in the text. Preliminary report is made of the fact that cases both atrophic and hypertrophic types of arthritis have experienced sharp improvement upon low calorie diets from which all vitamins were definitely excluded. While in no way negativing the role of the vitamins in relation to the rheumatoid syndrome as a whole in the sense above discussed, it is clear that the reduced food intake and not the presence of vitamins primarily determined the immediate sharp benefit observed.

Ralph Pemberton and E. G. Peirce: Annals of Internal Medicine 5:1221-1237, April, 1932.

Spinal Anesthesia Fatalities—Following a report of two fatal cases where spinal anesthesia was used, we are told that clinical and experimental evidence indicate that death is not due to respiratory failure as a result of the diffusion of the solution to the medullary centers. Labat believes that spinal anesthesia deaths are due to acute anemia of the brain, which may be avoided by employing the Trendelenburg position. Another mode of death occurs when the anesthetic reaches the anterior motor roots in sufficient strength to cause paralysis of the muscles of respiration. Death may result from the improper or excessive use of stimulants for combating vasomotor collapse in cases of myocarditis. The toxic effect of novocaine may be a lethal factor.

Anna M. Wenzel: Bulletin of the University of Kansas School of Medicine, 2:1-2, April, 1932.

Extract of Fish Liver in Pernicious Anemia—In a series of ten patients Conner administered an aqueous extract of the livers of haddock and related fish. Seven of these patients were studied in the hospital. The dosage in most cases was 90 cc. each day. All of the patients responded well so far as general symptoms were concerned and the effect on the blood picture was essentially the same as is obtained by the use of mammalian liver or extract of liver. Three of these patients improved subjectively in their neurological symptoms and one patient did not improve neurologically. A larger series of cases would be required to permit definite conclusions regarding the comparative effectiveness.

Conner, H. M., Extract of Fish Liver in the Treatment of Pernicious Anemia. The Proceedings of the Staff Meetings of the Mayo Clinic 7:137-138. March 9, 1932.

Paroxysmal Tachycardia—The authors present two cases in which the outstanding feature, in these cases, is the relationship to the onset of the paroxysms to the menstrual periods. The causes which produce attacks of paroxysmal tachycardia are many and often obscure. In the two cases described in this article it seems little doubt, however, that the provocative factor was the changes produced in the body by menstruation. The two cases presented are of supraventricular origin, one of which the attacks commenced at puberty and recurred at each subsequent menstrual period. In the other the paroxysms occurred later in life. In the early stages they occurred at frequent intervals, but for a period of years they have almost invariably had a definite relation to the menstrual period.

Paroxysmal Tachycardia Related to the Menstrual Period: J. Hamilton Crawford, M.D., F.A.C.P., Louis H. Sigler, M.D., and H. Fruchter, M.D.: Annals of Internal Medicine, 5:1155-1161, March, 1932.

Spinal Anesthesia: A Report of Its Use in 518 *Cases*—A report of experiences in the use of spinal anesthesia in the hospital of Veterans' Administration Home, Dayton, Ohio, during the period from January 1, 1930, to November 15, 1931, is presented in this report. A series of 518 spinal anesthetics is reviewed from the standpoint of age, of type of operation, of risk, and of technique of administration, with a discussion of postoperative reactions and of the advantages of spinal anesthesia. No mortality attributable to the anesthetic occurred in this series. One standard technique, the Labat, was used throughout. A carriage convertible into several positions was used. The patient may be quickly put in the Trendelenburg position and transported in that position, which is of prime importance where spinal anesthesia is employed. While recent literature offers experimental evidence as to possible in-

jury to the central nervous system and its coverings due to spinal anesthesia, clinically the authors have been unable to observe any permanent changes.

Vernon Roberts, Samuel B. Woodward, and Walter F. Coakley: The Medical Bulletin of the Veterans' Administration, 8:267-276, April, 1932.

Syphilitic Nephrosis — Bodansky and Templin present the history of a young Negro woman with a case of syphilitic nephrosis in which the edema was promptly relieved by a high meat diet. The serum proteins before treatment were equivalent to an osmotic pressure of 10.94 mm. Hg. calculated by using Govaerts' constants. Within five days on the high meat diet, it rose to 13.58 mm. Although this is approximately 26 per cent below the average normal (18.4 mm.), the change was sufficient to cause most of the edema to disappear. A serum protein content, equivalent to an oncotic pressure of 21.3 mm. was obtained in a subsequent analysis. By this time, the edema had completely disappeared. The last analysis recorded showed the serum proteins to have an oncotic pressure of 27.32 mm. Hg, a value which is normal. During the eight months' period of observation, the basal metabolism increased from —38 to —12 per cent. This occurred without the use of thyroid.

Syphilitic Nephrosis: Meyer Bodansky, Ph.D., and S. S. Templin, M.D., The American Journal of Syphilis, 16:191-197, April, 1932.

Coronary Disease in 100 Autopsied Diabetics—An analysis of 100 autopsies upon diabetics shows an incidence of 41 per cent of severe coronary disease. Above the age of 50 years the incidence is 52.7 per cent as compared with 8 per cent in an even larger series of non-diabetics of the same age. The frequency of coronary disease is almost as high in the female as the male. The incidence of hypertensive hypertrophy of the heart indicates that the hypertension is only slightly more frequent in the diabetic than the nondiabetic. In diabetics with gangrene the incidence of coronary disease is higher than in the uncomplicated cases. The essential cardiac lesion of diabetes is coronary sclerosis. Other types of cardiac disease are of relatively rare occurrence. The etiologic relationship between diabetes and arteriosclerosis is discussed, and it is concluded there is no generally accepted explanation for the prevalence of arteriosclerosis in diabetes.

Coronary Disease in 100 Autopsied Diabetics: M. H. Nathanson, M.D., The American Journal of the Medical Sciences, 183:495-503, April, 1932.

KANSAS MEDICAL SOCIETY
Proceedings of the 74th Annual Meeting —Continued

REPORT OF MEDICAL DEFENSE BOARD

To the House of Delegates:

The Medical Defense Board respectfully submits the report of its operations during the past year. The report of its attorney is also attached, which is to be considered a part of this report. The attorney's report gives a list of all cases that have been handled during the year, with their present status, together with a detailed statement of cases now in litigation. We shall not repeat this information in this part of our report. It will be sufficient to say that six cases have been tried and that we have won every one of them; that there are now eighteen cases pending, as compared with seventeen in our last report; that eight new cases have been filed during the past year, as compared with three during the preceding year. The increase of business disclosed by the last statement is not gratifying to us, although some may feel that the more cases we have the more reason there is for our existence. We should like to see a year during which no new case would be filed. Then, indeed, would we feel that our goal is being attained. We fight these cases, not merely to help the defendant member, but rather more to stop the pernicious tendency to shake down our members on the slightest pretext. We desire to make it safe for the doctor to practice his profession without being penalized or robbed by the recipients of his services on avaricious allegations. We receive many letters from members, asking advice concerning threatened suits for malpractice. We invariably tell them to sit tight and say nothing; and under no circumstances to offer to settle or to compromise in the matter. When this advice is strictly followed, the case in prospect usually aborts. Sometimes the insurance company, which also may be interested in

the case, chooses to settle out of court rather than to incur the expense of a suit. This is always, in our opinion, a very unwise thing to do. It tends to breed new cases against doctors in the locality; leaves the accused physician uncleared of the charge made against him, and defeats the purposes for which we are striving. We have always adhered to the policy of giving our members a vigorous and untiring defense through all the courts. And this is the policy which will most surely inhibit the practice of suing our members for alleged malpractice.

As the years go by we are getting better co-operation of our membership in defending these cases. It is getting to be better understood that, no matter how much one may personally dislike the accused, it is a poor way to get even with him to help the snitches and grafters convict him of malpractice. Only too soon may an opportunity come for the unlucky one to vigorously retaliate.

A table of our expenditures during the past eighteen years is given below, and will, perhaps, be of interest. It will be seen that the expenses of the past year have been $1,812.84 (vouchers Nos. 151 to 168 inclusive). This is $52.98 more than was expended last year. It may be remarked that expenses vary, not only according to the number of cases tried, but also according to the distance of cases from Topeka, the duration of the trial and the necessary expenses incurred preliminary to the trial. Our expenses have been much less than our income for several years; indeed, ever since the levy per capita was raised to $2.00. We have gradually accumulated a surplus in the Defense Fund, during these years of nearly eleven thousand dollars. However, one dollar per capita is insufficient, and we do not recommend any change in the levy at this time. A detailed account of our expenditures will appear in the report of the Treasurer.

We desire to commend our attorney, the Hon. John Hamilton, for the vigorous and effective manner in which he has personally handled our business. His relations with this Board have been most cordial, and he has won the friendship and admiration of our members throughout the state wherever he has had occasion to represent us.

DEFENSE BOARD EXPENDITURES—18 YEARS

1915	$ 1,254.95
1916	1,189.27
1917	777.45
1918	809.58
1919	759.41
1920	1,245.51
1921	1,458.35
1922	1,236.08
1923	1,310.96
1924	1,479.76
1925	1,970.05
1926	2,008.13
1927	1,981.03
1928	1,949.02
1929	2,279.43
1930	1,549.54
1931	1,759.86
1932	1,812.84
TOTAL, 18 Years	$26,849.22
Average, per year	1,491.62

Respectfully submitted,

O. P. Davis, M.D., Chairman
C. C. Stillman, M.D.,
Medical Defense Board.

Dr. L. G. Allen made a motion that the report be adopted which was regularly seconded and carried.

REPORT OF ATTORNEY MEDICAL DEFENSE BOARD

The following report of Mr. J. D. M. Hamilton, Attorney Defense Board, was handed to the Secretary by Dr. O. P. Davis for publication in the minutes.

April 18, 1932.

Dr. O. P. Davis, Chairman,
Medical Defense Board,
Kansas Medical Society, Topeka, Kan.

My dear Doctor Davis:

Enclosed herewith is my report for the consideration of the Defense Board and of the society generally in the form of a summary of cases which have been referred to me as attorney for the Board for the period beginning April 1, 1931, and ending April 1, 1932.

During the period of this report eight new cases have been filed as compared with three filed during a similar period covered by the last report. There are at this time eighteen cases pending which is one more than the number pending during the report ending April 1, 1931.

In my report to you for the year ending April 1, 1931, I called to the attention

of the board the unusual number of miscellaneous types of cases being filed. That comment is again pertinent this year. When I first undertook the work for the board fully eighty-five per cent of the cases brought to my attention were those involving failure to properly treat bone injuries. An analysis of the report this year shows that only three of the cases now pending are of that type. There is no particular conclusion to be drawn from this fact and it is mentioned only as a matter which may be of interest to the board in considering the report.

During the course of the year six cases have been tried and I am more than pleased to report that none of these have been lost. I trust that this report as submitted will have the approval not only of the board but of the state society as a whole.

Respectfully yours,

J. D. M. Hamilton.

SUMMARY OF CASES—Medical Defense Board, April 1, 1931, to April 1, 1932.

1. Smith v. R. C. Harner. Failure to properly diagnose and treat Colles' fracture. Filed 3/31/27. Tried to jury. Verdict for defendant.

2. Dr. A. R. Nash v. Mangan. Cross petition for negligent failure to properly diagnose infection of jaw bone. Filed 6/30/28. At issue.

3. Smith v. Mayo. Hedge. Failure to properly treat during pregnancy. Filed 6/28/29. At issue.

4. Mick v. L. W. Fowler and J. D. Musick. Failure to diagnose and treat fractures of tibia and fibula. Filed 2/7/30. Tried to jury. Verdict for defendant.

5. Cooke v. J. C. Bunten. Failure to properly treat and diagnose fracture of left arm. Filed 2/21/30. Pending in Supreme Court upon appeal defendant from judgment sustaining demurrer to answer.

6. Burd v. H. R. Ross. Action for libel against defendant as city health officer for report on milk. Filed 3/1/30. Tried to jury. Demurrer sustained by court. Judgment for defendant.

7. Murthe v. C. D. Armstrong, C. M. Fitzpatrick, H. V. Soliss and Nazareth Convent and Academy. Negligent failure to protect plaintiff during course of operation in which she received burns on her feet. Filed 6/2/30. Trial resulted in hung jury. Case awaiting new trial.

8. Liebach v. B. E. Miller and C. C. Kerr. Negligent removal of portion of uvula during tonsillectomy. Filed 10/10/30. First trial resulted in verdict of $2,500 for plaintiff. New trial ordered by court. Second trial resulted in hung jury.

9. Sykes v. C. D. Blake, C. M. Miller and Hayes Protestant Hospital. For negligence in failing to remove sponge during operation for sarcoma. Filed 1/21/31. Demurrer sustained to petition for misjoinder.

10. Murphy v. F. C. Boggs et al. Action for fraudulent report of extent of injury under Workmen's Compensation Act. Filed 3/20/31. Dismissed with prejudice to plaintiff.

11. Umschied v. M. A. Brawley. Action for negligently failing to properly pack nose after minor operation, resulting in inspiration of blood into lungs. Filed 4/24/31. Demurrer to evidence sustained. Judgment for defendant.

12. Cloninger v. Julius Rotter. Action for negligence in failing to remove drainage tube. Filed 10/6/31. Pending on preliminary motions.

13. Buchner v. John Outland and H. W. Nye. Action for negligence in operating for hernia. Filed 9/24/31. Removed to Federal Court. Pending on preliminary motions.

14. Root v. J. M. Jaquiss, et al. Action for negligently failing to properly treat hemorrhage caused by injury to left leg. Filed 11/21/31. At issue.

15. Dr. F. L. Leavell v. Lester Wight. Cross petition alleging negligence in delivery of child. Filed 12/16/31. Dismissed with prejudice to defendant.

16. Skyes v. C. D. Blake. For negligence in failing to remove sponge during operation for sarcoma. Filed 1/25/32. Ellis county. At issue.

17. Oscar Sharp and Ethel Sharp, (Drs.) v. E. E. Coulter. Cross petition alleging negligence through use of radium. Filed 2/18/32. Pending on preliminary motions.

18. Coulter v. Oscar Sharp and Ethel Sharp. Action for negligent use of radium in treating cancer of womb. Filed

2/18/32. Pending on preliminary motions.

REPORT OF COMMITTEE ON PUBLIC POLICY AND LEGISLATION

To the House of Delegates:

Your committee on Public Policy and Legislation reports as follows: Since there has been no meeting of our legislature the past year, we have had no local work to do. The Congressional Record shows, however, that the American Medical Association has been active in Washington. In urging co-operation of national and state health boards we are not united in opinion. Our state board favors continuing to receive assistance from the government. The committee of the American Medical Association points out that the call for help to mothers and children in rural districts is not so imperative as it might seem since the death rate among those is now less than the urban reports show. Of course this is partly accounted for by the fact that hospitals receiving patients from large rural districts make reports which are classed as urban. The American Medical Association recognizes this but still holds that it is dangerous to have national boards directing public health activities since it is leading the way to a system like the English Panel which is obnoxious to the profession in America.

The care of World War Veterans in hospitals is a vital question. In these unfortunate financial times it seems wrong to have the Government expend large sums for hospitals which may not be needed long when many of our local hospitals would be glad to furnish accommodations at reasonable rates. It seems reasonable also that the surgical service in established hospitals would be better than might be had in politically controlled temporary places. I hope there may be time to discuss these matters that a consensus of opinion may be shown from Kansas.

Prof. Geo. S. Counts of Teachers' College, Columbia University, New York, says, "The condition in which the world finds itself today is a most convincing commentary that the problem of medical care is not solely a medical problem. . . among the causes within the medical profession are the following:

1. Lack of sufficient organization and co-operation by members of the profession.
2. Uneven distribution of practitioners.
3. The high cost of hospital and auxiliary services.
4. The high cost of equipping an office.
5. The vast amount of medical service rendered without money by private physicians.
6. The competition of the health activities of state, county, city hospitals and clinics of lodge and fraternal doctors and contract practice.
7. Medical science is kept constantly up to date but organization is way behind the times."

Our basic science law gives me much concern. When I see other states having this reasonable provision in operation and I reflect on my complete failure to interest our Kansas law makers it seems time for me to retire from this important committee and let a new face greet the next session of the legislature.

Very respectfully submitted,
W. S. Lindsay, M.D.

On motion regularly seconded and carried, the report was accepted and filed.

REPORT OF COMMITTEE ON SCHOOL OF MEDICINE

To the House of Delegates:

Your school continues to maintain its excellent high rating among all medical schools being an A plus school. It has enrolled 261 medical students divided as follows:

Freshman	72
Sophomores	72
Juniors	59
Seniors	58
TOTAL	261

There are 87 nurses in training with 22 in this year's graduating class.

The school is crowded beyond capacity, there being 72 in the sophomore class which has a maximum capacity of only 70.

There were over 300 applicants for admission to the freshman year, while the limit of only 72 could be taken. This necessitated the turning down of many legitimate Kansas applicants. Those selected were the men with the best scholas-

tic standing. Of those admitted, 65 were from Kansas and most of the others came from Kansas City, Missouri.

The number of nurses is limited according to the accommodations of the nurses home. Owing to the present over supply of graduate nurses the school is somewhat discouraging very large classes.

Hospital Work: The hospital now has 185 beds with space, since the recent completion of the nurses home, available for 40 more beds which will be furnished as soon as funds can be obtained. The number of patients admitted last year was 4,385 which is a marked increase over previous years although most hospitals throughout the community had a decided decrease. Twenty per cent of the hospital expense is borne by the state and the rest is derived from fees received from the patients.

The Crippled Children Law enacted by the last legislature went into effect January 1 and up to March 22, 1932, 63 children had been taken care of under this law, 90 per cent of whom were purely of the orthopedic type.

In the dispensary 16,297 new and 38,-335 old patients making a total of almost 55,000 treated during the past year.

Special Activities at the School: Several post graduate courses were given during the year but owing to lack of funds and poor attendance were not as extensive as previously. The three-day clinical course given in November was well attended and very satisfactory.

Research work is being continued and published quarterly in the Medical School Bulletin and distributed to the members of the Kansas Medical Society. At present one of the special problems being studied is intestinal obstruction.

Improvements made in the plant during the last year. A new boiler and stoker were installed which takes care of any heating emergency; the grounds have been improved by landscaping at the northeast corner, and the nurses' home has been finished giving housing facilities for approximately 100 nurses.

Essentials most needed: The budget was reduced $27,000 when the 10 per cent reduction of the maintenance funds of all state institutions was made. This caused the postponement of the establishing of the Department of Hygiene and Preventive Medicine; necessitated the continuation of keeping the colored patients and the out patient department housed in temporary barracks which cannot be adequately heated or furnished, and compelled the institution to turn away many deserving patients who would furnish excellent teaching material.

A service building and connecting corridor costing about $200,000 is badly needed. The service building which alleviates the present crowded condition of the plant by providing a kitchen, store room facilities, expansion of the *x*-ray department, and a place for the pathology and other departments at the old building on the grounds a mile away.

The connecting corridor will provide housing facilities for the colored patients.

Recommendations: Your committee recommends the Kansas Medical Society and all of its members stand solidly behind the medical school, collectively and individually, in every way that will cause it to push forward, increasing the efficiency of all who deal with the health of the populace thus preventing and shortening morbidity, prolonging longevity and increasing the happiness of the citizenship of the state.

Respectfully submitted,

L. F. Barney, M.D.
E. S. Edgerton, M.D.
W. Stephenson, M.D.
Lewis G. Allen, M.D.
W. M. Mills, M.D.

On motion regularly seconded and carried the report was accepted and filed.

REPORT OF COMMITTEE ON HOSPITAL SURVEY

To the House of Delegates of the Kansas Medical Society:

Your Committee on Hospitals herewith submits the following report: As usual this report is based largely upon data furnished by the American Medical Association Committee on Medical Education and Hospitals. The activities on the part of the American Medical Association and the American College of Surgeons in the standardizing of hospitals has continued during the past year, as each of

these organizations have men in the fields inspecting the hospitals with a view of improving same from the patients' standpoint. The condition and the number of hospitals in the state have not materially changed during the past year.

The following summary is furnished by the American Medical Association in response to a request for same.

Hospital service to the sick and injured in the state of Kansas is now being supplied by a total of 132 hospitals that meet the requirements for registration by the American Medical Association. These hospitals are rather well distributed so that there are at least fair to excellent hospital facilities available to practically every community in the state. There are one or more hospitals located in each of 58 counties, whereas in 1920 only 45 counties had hospitals located within their borders, out of a total of 105 counties.

In spite of a decrease of one hospital during the past year there has been an increase in bed capacity and in the figures indicating the amount of work done in the hospitals during the year. The total bed capacity is 12,695 in addition to 727 bassinets. The average number of patients during the year 1931 was 9,495 as against 8,916 for the preceding year. Between 1929 and 1931 the number of births in the hospitals increased from 7,023 to 8,176. In this respect, Kansas is keeping step with other states of the Union in which the use of hospitals for maternity cases is growing. The total number of individual patients admitted to Kansas hospitals last fiscal year was 89,391. Among the 2,168 licensed physicians there were 1,725 on the active and consulting staffs of the hospitals. The 14 hospitals having dental departments reported 26 dentists.

The statistical information in this article has been compiled from the American Medical Association's census of hospitals, the report of which will be published in the Hospital Number of the Journal of the American Medical Association for June 11, 1932.

Schools of nursing which numbered 60 in 1923 and 47 in 1930 now number 46. This indicates a tendency which is common to other states, of some hospitals to make use of registered nurses rather than to operate a school of nursing.

Owing to the absence of large cities in Kansas, the outpatient service of hospitals does not loom very large. There are, however, 31 institutions that reported having some type of outpatient department. In these, 81,890 persons were outpatients who made 203,939 visits during the year. Among the 132 hospitals, 82 have their own laboratories and 96 hospitals report having *x*-ray departments. One hundred hospitals are classified as general; 11 nervous and mental; 3 tuberculosis; 3 industrial; 1 maternity and 14 are operating as adjuncts to institutions such as custodial homes and are used only for emergency hospitalization of inmates.

The federal government manitains 5 institutions within the state; the state maintains 17, counties 5, cities 7, and 1 is run by co-operation of a city and a county. Thirty-nine hospitals are identified with religious orders; 1 with a fraternity; 3 are owned by industries; 30 by individuals and 24 by incorporated hospital associations.

Educational Function of Hospitals: The state of Kansas is represented on the list of hospitals approved for internship by the American Medical Association with five hospitals including the Bell Memorial, Bethany Methodist and St. Margaret's Hospitals of Kansas City and the St. Francis and Wesley Hospitals of Wichita. They have a total capacity of 1,125 beds with 26 interns. The internships in these hospitals are all of the mixed or rotating type of service and are of 12 months duration. Nominal salaries, ranging up to $50 per month in addition to maintenance are provided in these hospitals. Although only 19 state boards out of 46 require internship for graduation, the real requirement for internship comes from the medical graduates themselves, for around 95 per cent of all medical graduates are taking a year or more of intern service whether required or not. The voluntary serving of internships possibly accounts for the fact that only 18 of the 48 state boards and 14 of the 76 medical colleges have found it necessary to require the internship. The medical graduate of today is therefore not looked upon as having completed a medical

course until he has served his hospital year. This year is indeed a part of his medical education and it follows that the hospital which assumes the duty of giving the intern or hospital year is to that extent an educational institution and the medical staff constitutes a teaching faculty.

In order that teaching in the hospitals using interns may be carried out as efficiently as possible, the Council on Medical Education and Hospitals makes regular examinations of those hospitals through a corps of experienced inspectors. The same inspectors also examine other hospitals and give them assistance with their problems of organization and maintenance of adequate ethical hospital service to the community. The Council also prepares the list of physicians specializing in pathology and in radiology. There are 20 hospitals in the state which have been investigated by the Council and have not been admitted to the register. The reasons why they were not admitted have been communicated to the institutions concerned. The unrecognized hospitals have a capacity of 509 beds, which constitutes after all, only 4 per cent of the total hospital capacity of the registered hospitals in the state.

The activities of the Council on Medical Education and Hospitals are not intended to relieve the Committee on Medical Education and Hospitals of the State Medical Association of its duties and functions. Hospitals are essentially local institutions, each of which renders service to its own community. It is not only the privilege, therefore, but it is also the responsibility of the state and the county medical societies to interest themselves in the development and maintaining the best possible hospital service for the public and for the profession.

Respectfully submitted,

Geo. M. Gray, M.D., Chairman
Alfred O'Donnell, M.D.

On motion which was regularly seconded and carried the report was accepted and filed.

REPORT OF COMMITTEE ON SCIENTIFIC WORK

To the House of Delegates of the Kansas Medical Society:

We desire to submit the following report:

We are greatly pleased over the accomplishments of the committee during the past year and submit the 1932 program as evidence of work performed by the committee.

Respectfully submitted,

J. F. Hassig, M.D.

On motion which was regularly seconded and carried the report was accepted and filed.

Dr. Wm. C. Menninger made a motion that the report of the Committee on Stormont Medical Library be not read but handed to the secretary for publication in the minutes, which was regularly seconded and carried.

REPORT OF COMMITTEE ON STORMONT MEDICAL LIBRARY

To the House of Delegates of the Kansas Medical Society:

The Stormont Medical Library is composed of approximately 2,400 accessions, chiefly in the form of books and reports. In addition to this the library takes regularly the following journals:

American Journal of Diseases of Children.
American Journal of Medical Sciences.
American Journal of Public Health.
Annals of Surgery.
Archives of Internal Medicine.
Archives of Pathology.
Archives of Pediatrics.
Archives of Surgery.
Journal of the American Medical Association.
Journal of the Kansas Medical Society.
Journal of the Missouri Medical Association.
Lancet (London).
Medical Journal and Record.
Quarterly Cumulative Index.
Surgery, Gynecology and Obstetrics.

This library is housed in the state library in the state house at Topeka and cared for by the librarians in that library. It is supported by the interest from a sum of money, approximately $5,000 invested by the state teasurer and bringing in revenue approximating $300 each year which is spent on new books and on magazine subscriptions. The cost of binding the magazines is stood by the state and there

is no charge on the part of the library for indexing the books.

At the report of this committee last year it was suggested that men over the state be permitted to write in to the library, request a particular journal or book and receive it loaned for a period of two weeks providing they were members of the society to use the library. The suggestion, however, has not been followed and not a single request has been received all year and there are very few men who make use of the library.

At the present time the fund for purchasing books amounts to only $23.00 and no books have been bought this year. The reasons for this sum in the treasury are accounted for because prior to appointing of a state Library Committee no one had direct charge of the library and the librarians were accustomed to ordering things most any physician suggested with the result that there was considerable money promised on periodicals, systems of medicine and the like when this committee took charge and it was necessary to stop several of these general subscriptions as well as pay up the bills owed before we attempted to order any books.

It is suggested that there may be many members of the society who will have volumes of various journals which the library should appreciate having. The Library Committee would gratefully receive any past magazine volumes which might be added to the library and shall appreciate any suggestions from members of the society as to how to make this very valuable library more practical and useful to the members of the society.

Respectfully submitted,

Wm. C. Menninger, M.D., Chairman
John L. Lattimore, M.D.
W. F. Bowen, M.D.

Dr. E. D. Ebright presented a resolution pertaining to veterans' care which was discussed, but no definite action taken.

Dr. J. F. Gsell presented the following resolution pertaining to the Crippled Children Law:

Whereas, It is the judgment of the House of Delegates of the Kansas State Medical Society in regular session assembled that the present Crippled Children's Law of the State of Kansas is not for the best interests of the state at large; and

Whereas, It is the judgment of the said House of Delegates that the manner in which the said law is being administered is not to the best of ultimate interest of the crippled children of the State of Kansas, of the accredited hospitals of the State of Kansas, of the taxpayers of the State of Kansas, or of the licensed and resident doctors of medicine of the State of Kansas; therefore be it

Resolved, That the president of the Kansas State Medical Society shall appoint a committee of three members from the Kansas State Medical Society to work in conjunction with the Legislative Committee of the society for the purpose of formulating a plan to bring about a desirable solution of this problem.

Resolved, That this said committee be instructed and authorized to take such subsequent action as in its judgment is necessary to bring about this solution.

On motion regularly seconded and carried the resolution was adopted. The President, Dr. P. S. Mitchell, appointed the following committee: Dr. J. L. Evans, Dr. H. L. Scales and Dr. E. M. Seydell.

Dr. E. C. Duncan presented the following resolution:

Whereas, Present conditions facing the profession of medicine and the Kansas State Medical Society require more unified direction of effort and greater efficiency than is possible under our present organization in the work of the Kansas State Medical Society; and

Whereas, The general consensus of opinion decrees that a desirable reorganization of the society and increased efficiency and impetus to its activities can best be accomplished by the employment of a lay executive secretary; be it

Resolved, That the Council of the Kansas Medical Society be empowered to arrange for the reorganization of this society according to the dictates of its judgment and to provide for the employment of a full time lay executive secretary; and be it further

Resolved, That the Council of the Kansas State Medical Society shall complete its work and shall inaugurate the new program which it adopts not later than

the first day of November, 1932.

Dr. O. P. Davis raised the point that in order to adopt the resolution it would become necessary to change the Constitution and By-Laws.

After some discussion, Dr. J. F. Gsell made a motion, regularly seconded and carried that the President, Dr. Mitchell, appoint a committee of three to study the resolution and make a report at the next meeting of the House of Delegates on Thursday morning.

Dr. Mitchell appointed the following doctors: Dr. E. C. Duncan, Dr. L. F. Barney and Dr. C. C. Stillman.

Dr. W. P. Callahan presented the following resolution:

Whereas, It is the judgment of the House of Delegates of the Kansas State Medical Society in regular session assembled, that the Crippled Children's Law, as operated by the present Crippled Children Commission at this time, is not operated for the best interests of the state at large, and

Whereas, This law is already in effect and operation and is being administered, not for the best interest of the crippled child, the taxpayer, the hospitals or the medical profession at the present time, but only for the interests of a few.

Resolved, That the House of Delegates recommend to the Governor of the State of Kansas, that he appoint a committee of three members of the Kansas Medical Society to confer with a committee appointed from the Crippled Children Commission to thoroughly investigate the work of the commission and to devise a more satisfactory operation of this law, and we recommend that this be done as soon as possible.

Resolved, That we request this committee to make a detailed report to the councilors at a meeting not later than November, 1932.

On motion regularly seconded and carried the resolution was adopted.

Meeting adjourned.

(Continued in August Journal)

COUNTY SOCIETY NEWS

BOURBON COUNTY MEDICAL SOCIETY

The Bourbon County Medical Society was addressed on May 16, 1932, by Dr. Clinton K. Smith of Kansas City, Missouri. Dr. Smith spoke on "Transurethral Resection of the Hypertrophic Prostate," and gave a demonstration of the procedure.

Dr. J. R. Prichard of Fort Scott demonstrated a number of *x*-ray plates of shoulder injuries.

Visitors from adjoining counties were present.

R. L. Gench, M.D., Secretary.

DEATH NOTICES

Joseph T. Bazan, Kansas City, Kansas, aged 56, died June 11, 1932, at Cherokee, Iowa. He graduated from Central Medical College, St. Joseph, Missouri, in 1896. He was not a member of the Society.

Alfred Gifford, Lawrence, aged 79, died May 20, 1932, of cardiovascular-renal disease. He graduated from St. Louis Medical College in 1878. He was not a member of the Society.

Frederick J. Haas, Leavenworth, aged 56, died June 6, 1932. He graduated from University Medical College, Kansas City, Missouri, in 1907. He was a member of the Society.

David William Howell, Caney, aged 69, died June 17, 1932, of injuries suffered in an automobile accident four years ago. He graduated from Medico-Chirurgical College of Kansas City, Missouri, in 1902. He was an honorary member of the Society.

Ralph Elmer Jenkins, Pittsburg, aged 46, died May 4, 1932, in St. Luke's Hospital, Kansas City, of heart disease. He graduated from Ensworth Medical College, St. Joseph, Missouri, in 1908. He was a member of the Society.

Cyrus Decker Lloyd, Leavenworth, aged 62, died June 25, 1932, of cerebral

hemorrhage while on a vacation trip near Duluth, Minnesota. He graduated from Tufts College Medical School, Boston, in 1898. He was a member of the Society.

The Physician's Library

(Continued from Page 252)

Biochemistry in Internal Medicine: By Max Trumper, Ph.D., Clinical Chemist and Toxicologist; formerly in charge of the Laboratories of Biochemistry of the Jefferson Medical College and Hospital and of the Psycho-Biochemistry Laboratory, Graduate School of Medicine, University of Pennsylvania, Philadelphia, and Abraham Cantarow, M.D., Instructor in Medicine, Jefferson Medical College, Assistant Attending Physician, Philadelphia General Hospital; in charge of Laboratory of Biochemistry, Jefferson Hospital. With a foreword by Elmer H. Funk, M.D., Sutherland M. Provost, Professor of Therapeutics at Jefferson Medical College. 454 pages with illustrations. Philadelphia and London: W. B. Saunders Company, 1932. Cloth, $5.50 net.

In this book, chapters are devoted to carbohydrate, chloestrol, chloride, calcium, phosphate, acid-base balance, going into the theory and practical application. Although the book deals with many subjects that are not of practical application, there are many points that will be of use. A study is made of the difference of sugar in venous and arterial blood, also the variation in the amount of sugar, depending upon the type of test used, this variation shows the blood sugar from 65 to 130 mgm. A good differentiation is made between diabetes mellitus and diabetes insipidus. Study shows that morphine raises the blood sugar 20 to 40 per cent. There is a rather concentrated discussion of renal function, liver function, spinal fluid, exudates and transudates, giving some practical points and tests. The book is well worth studying as it deals with the subjects that few of us are familiar with.—J. L. L.

The Expectant Mother's Handbook, by Frederick C. Irving, A.B., M.D., professor of obstetrics, Harvard Medical School and Visiting Obstetrician, Boston Lying-in Hospital. 199 pages, profusely illustrated. Houghton Mifflin Company, Boston and New York. Price $1.75. 1932.

A book which deals authoritatively, frankly, comprehensively, and simply with everything the expectant mother should know about childbirth. According to the author, the book is written with two objects: "One is to acquaint the patient with the facts of pregnancy and childbirth in which she as an intelligent woman may be expected to have an intelligent interest. The other is to dispel certain untruths and superstitions related to her by well-meaning but ignorant relatives and friends which are often the cause of needless anxiety."

The book is illustrated with a large number of diagrams which further explain the reading matter. It answers all the questions which are so commonly asked of the physicians.—E. G. B.

Newspapers and Headlines

Americans are a headline reading people. Few read all of a newspaper; their impressions reflect just the large type that they see. This fact has resulted in some agitation relative to the heading frequently appearing in the press indicating that death in some cases has followed an operation. Thus Dr. Bransford Lewis asserts, and several editors of newspapers agree, that the heading "Dies Following Operation" can have no other effect except to bring about phobia against surgical procedures, perhaps fear so great as to result in postponed operation in cases in which operation may be the only method of saving life. Since surgery is undertaken with the idea of prolonging life the constant reiteration of the phrase "Dies Following Operation" serves an antisocial purpose. Newspaper editors might well give the subject serious attention. The cause of death may be cholecystitis, appendicitis, brain tumor or any one of a number of serious conditions which might well be mentioned in the title of the article rather than the fact that operation failed to save the patient.—Editorial, Jour. A.M.A., May 7, 1932.

The death rate from appendicitis during 1929 was 18 per 100,000 in 59 American cities with a population exceeding 27,500,000. This is equivalent to a 50 per cent increase over the rate of 13.3 per 100,000 in 1910 for 60 cities with a population slightly more than 18,500,000.

Samples and literature on request.

A FOOD WHICH CORRECTS INTESTINAL PUTREFACTION

LACTO-DEXTRIN

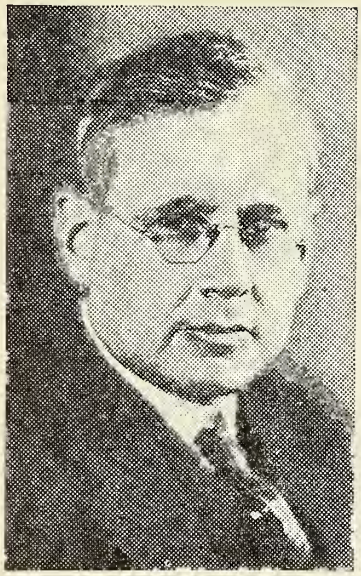
(Lactose 73% — dextrine 25%)

Provides the right soil for the growth of a normal intestinal flora — Nature's method of combating putrefaction.

THE BATTLE CREEK FOOD CO.

Battle Creek, Michigan

FOR SALE—All equipment belonging to the late Dr. W. J. Aldrich. Office furniture, instruments, scale, examination chair, books, etc. For information write James F. Aldrich, Independence, Kansas.



Alf M. Landon

ALF M. LANDON

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Has a sane, progressive and constructive program; free from "bait-catching" phrases and nostrums of every kind and character.

Honest, sincere, courageous and with the ability to make a first-class executive.

He is making no promises he cannot and will not fulfill after he is nominated and elected Governor of this great state.

A vote for Alf M. Landon for Governor on August 2nd., is a vote for clean, honest and efficient state government.

Primary August 2, 1932

(Political Advertisement)

ROLAND BOYNTON

candidate for

SECOND TERM

as

ATTORNEY GENERAL

Subject to Republican Primary
August 2, 1932

(Political Advertisement)

GEORGE WINTERS

for

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Republican primary August 2, 1932

Five years Assistant State Auditor.
Asking for Promotion.

Contributed by friends of the medical profession

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THE JOURNAL
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ORIGINAL ARTICLES

PRACTICAL CONSIDERATION IN BONE SURGERY*

W. E. Mowery, M.D.
Salina, Kansas

For practical purposes we may classify the various conditions demanding bone surgery into those resulting from injury, infection, new growth, malnutrition and congenital deformities.

Before entering into the discussion of these conditions reference to normal bone will materially clarify the subject. Long bones are surrounded by a fibrous sheath of periosteum, which in its normal state is not visible by *x*-ray. Beneath this is compact dense cortex composed of bone cells and inorganic salts traversed by numerous small canals. Within is the medullary canal containing marrow, fat, nerves, blood and lymph vessels. At each end the cortex and medullary canal merge to form the cancellous ends, which in turn are covered by cartilage to form the joints.

The various types of fractures demand first consideration, coupled with which one must always be mindful of associated injury to the soft tissue. Compound fractures should be converted into simple fractures, the process of which is well standardized. The adjacent field up to the edges of the wound should be shaved, cleansed with benzine, alcohol and ether, and a reliable antiseptic applied. McDonald's solution or iodine being careful not to contaminate the wound with cleansing solutions or antiseptics, any amount of which will not sterilize the wound and interferes with the first stage of healing. The wound itself should be freed from debris and foreign material with sterile gauze and forceps; devitalized soft tissue trimmed away, and sharp spicula and loose bone removed. The wound should be closed with interrupted sutures of horse hair without drainage and dressings applied.

During the first twenty-four to thirty-six hours there is an elevation of temperature which if it does not exceed 101 can be regarded as fibrin temperature. Should it exceed 101, continue longer than forty-eight hours or a secondary rise occur, the wound should be inspected and enough stitches removed to permit necessary drainage. Mechanical and physiological laws must be observed by placing the injured member in the best position to preserve the integrity of the soft tissue, encourage return circulation and maintain the fragments in the best possible apposition and alinement. Undue pain, excessive sweling, discoloration, necrosis of the skin or the appearance of blebs are danger signals demanding immediate attention. This is equally true of all fractures, compound or otherwise. Should infection occur, its treatment supersedes all other treatment until controlled. Dakin's solution or 75 per cent alcohol in air tight dressing have proved the most satisfactory. The skill and jndgment of the surgeon must be flexible enough to meet the demand, as no invariable rule will apply in all cases.

Certain fractnres merit special attention. The first of which are those occuring at the lower end of the radius, commonly classified as Colles' fracture, of which there are various types not included in his original article in 1814.

Because of the anatomical relation and the structural importance of the soft tissue, the treatment of all fractures of the lower end of the forearm cherish certain features in common. Colles located the injury one and one-half inches above the joint, most of them occur within three-fourths inch. In over 50 per cent of the

*Read at the 74th annual meeting of the Kansas Medical Society, May 3, 4 and 5, 1932, Kansas City, Kansas.

cases the triangular interarticular fibro cartilage is ruptured with broadening of the wrist. Force extended from the palmar surface of the hand results in an oblique fracture with backward displacement of the distal fragment which gives the characteristic deformity. Force extended from the dorsal surface of the hand results in forward displacement of the distal fragments, producing a reversed Colles.

Occasionally we encounter a fracture extending from the posterior surface of the lower end of the radius into the joint, known as Barton's fracture. If the fracture extends from the anterior surface of the radius into the joint it is a reversed Barton's fracture. Here again the line of fracture depends upon whether the force is extended from the palmar or dorsal surface of the hand. In reality this injury is a luxation of the joint complicated by fracture. Colles' fracture is rarely compound but frequently impacted, associated with injury to the styloid process of the ulna. Epiphyseal separation in children and young adults and other complications are recognized by x-ray examination, and variation in the treatment is adjusted to meet the demands of each case. Early reduction is imperative, and complete reduction is absolutely essential to assure complete restoration of function. When impaction occurs the lower end of the radial shaft being tubular and compact is driven into the softer cancellous distal fragments compressing it in such a way as to leave a triangular cavity which frequently results in recurrence of deformity following reduction. This can only be prevented by complete reduction.

Reduction can not be accomplished by traction, but is obtained by unlocking the fragments by hyperextension at right angles of the distal fragments on the proximal one. Once correctly reduced the tendency of recurrent displacement is slight. However, the application of proper dressing is of more vital importance in securing early and complete restoration of function in treating fractures of the forearm, than in any other part of the body.

No amount of tight bandaging or application of pressure splints will prevent displacement of the bones, but by producing circulatory stagnation and undue nerve pressure will prolong the disability and may result in serious permanent injury from necrosis or Volkman's ischemic contraction.

Circular casts should not be used at least until after all swelling has subsided. Moulded plaster or felt makes a reliable and safe splint and meets all demands for universal use. The splint should extend from the center of the palm to within two inches of the angle at the elbow, permitting free use of the fingers and the elbow joint. Adhesive applied directly to the skin frequently produces irritation and I have seen severe reaction in susceptible individuals.

Fractures at a higher level involving both bones of the forearm are more difficult to reduce and maintain in proper alinement which is highly impotant if one is to obtain consistent, satisfactory results. When this cannot be obtained by extension and counterextension, open reduction and fixation is the only solution.

The dressing consists in a padded board of proper width and thickness applied on the posterior surface of the arm extending from a point two inches below the finger tips to a point two inches above the olecranon. The arm is slipped into a stockinet to protect the skin and adhesive applied to obtain sufficient extension and counterextension.

Fractures near or involving the elbow joint present many complications and problems in treatment. Time permits of only passing comment on a few essential facts. There is much discussion pro and con as to early active and passive motion. The answer is crystallized by insisting upon complete reduction. Where not obtained by flexion of forearm, various methods of extension and skeletal traction, open reduction is indicated. In placing the forearm in acute flexion, extra caution must be exercised, because of the danger involved as a result of swelling. The circulation about the elbow should be supported by an ace bandage.

Fractures of the humeral shaft demand little additional comment. Overriding, angulation and rotation are the three cardinal factors producing the deformity.

Depending on the location of the break, certain muscular attachments and contractions influence the displacement. The line of fracture is governed by the application of force. Direct force results in transverse or comminuted fractures, while indirect force produces spiral or oblique fractures. If good apposition without shortening or rotation is obtained, angulation can be corrected after there is partial union. This is a clever stunt in certain cases where one experiences difficulty in controlling all deformities.

Here as in fractures of other single long bones good functional results are not incompatible with some displacement, and should be accepted in preference to open operation or treatment which endangers the soft tissue. Proper reduction is frequently maintained by coaptation splints. If not some form of extension, not over five pounds, is required. In unusual cases it may be necessary to confine the patient in bed to obtain proper extension. A very satisfactory ambulatory splint meeting all requirements in the majority of cases, is Hoke's Ratchet splint. Fractures occurring at the surgical or anatomical neck may be complicated by dislocation.

Fractures of the pelvis and separation of the pubis are fairly common and are the result of severe violence. These fractures are frequently multiple but rarely compound except as a result of penetrating injury. They are grave because of the possible complications from injury of the soft tissue or viscera. All cases should be catheterized before efforts to void are permitted. In case of injury to the urethra an indwelling catheter is placed. Injured bladder demands either supra-pubic or perineal incision. If no displacement is present from fracture of the pelvis, circular support may be all that is necessary. Displacement requires Bradford frame, hammock suspension and extension depending on which combination is best adapted to the individual case. Satisfactory function is usually obtained even though there is marked displacement. Operative treatment is seldom justified.

Fractures through the femoral neck in the aged present a difficult problem. Impacted fractures frequently unite with little or no treatment. Non-union frequently results in unimpacted fractures regardless of treatment employed and always results in cases when reduction is not accomplished. Whitman's method of hyperextension, complete abduction, internal rotation, and fixation meet the requirements of the majority of cases. In young or robust individuals fixation by autogenous bone peg insures restoration of complete function without deformity.

In fractures of the femoral shaft traction is the fundamental principle of treatment. Skeletal traction gives more consistent alinement and apposition, but presents some obstacle to its universal application. Accurate reduction is difficult to obtain and more difficult to maintain by any method of traction and can be obtained consistently only by open reduction and fixation. Here as in fractures of the humerus slight displacement, overriding and shortening are not incompatible with satisfactory functional results, but while far from desirable are occasionally justifiable.

Fracture of the patella is a simple injury, rather frequent in occurrence and results from a direct or indirect force. Since it is a sesamoid bone it has no periosteum, therefore fibrous union results in all cases not operated. The operation should be simplified to suturing the aponeurosis. This being one of the first fractures to receive open fixation, has inherited the sins of tradition, and in the minds of the inexperienced must be handcuffed with iron, flint or rawhide.

Fractures of the leg present their chief difficulty when both bones are involved, or when occurring at the ankle joint. Because the anterior surface of the tibia lies so close to the skin these fractures are frequently compound. In fractures of the leg non-union of the tibia is common. Satisfactory results demand maintenance of accurate reduction, since function of the leg is weight bearing. Angulation and overriding result in noticeable and troublesome deformity.

Non-union, faulty union and certain troublesome fractures require operation.

The type of operation depends upon the skill and judgment of the surgeon in selecting the one best adapted for the individual case.

Non-absorbent material such as wire, steel plates, bands and so forth is rapidly being supplanted by absorbable material. Beef bone makes excellent plates, screws and pegs, which are strong and reliable. They produce very little irritation, last for several months and are eventually absorbed. One can frequently use some type of lock step operation secured by kangaroo tendon with gratifying results, and when adaptable is preferable to the introduction of large amounts of any foreign material.

Autogenous bone graft has a wide field of application and is especially adapted to bridging in defects resulting from loss of bony tissue and in stimulating bone production in non-union.

BONE INFECTION

Osteomyelitis is the most frequent primary bone infection, and results from invasion by pyogenic organisms. Certain specific infections produce definite pathological changes.

As previously stated normal bone is composed of periosteum, cortex, medullary canal, cancellous ends and cartilagenous articulations. The general pathology depends upon the involvement of one or all of these constituents separately or simultaneously. The changes reflected by *x*-ray govern the treatment. When the disease originates in the periosteum the dense cortex prevents extension to the deeper structures and it remains as a periostitis, which if recognized and drained early is usually of little consequence; but if neglected will eventually extend to the deeper structures. Having once gained entrance to the cortex it seldom remains as a simple osteitis, but rapidly extends to the medullary canal producing a true osteomyelitis. More often the disease is conveyed by the blood or lymph vessels and we have to deal with an osteomyelitis from the outset. Infection occurring by this route is more active than direct bone infection. Extension from the joint is first resisted by the cartilage, beyond which it rapidly destroys the head of the bone. Cancellous bone is more resistant and infections extend but slowly to the medullary canal.

There is a free communication between the medullary canal and the Haversian system of canals. These in turn as they traverse the compact bone have numerous intersections, and between the canals there are dense masses of bone salts. This gives the infection free access to all parts of the bone, but the dense structure offers more resistance. Thus the infection can not extend equally in all directions, therefore, it spreads and breaks through in other portions of the bone leaving areas of normal bone between the primary and secondary lesions. When an area of bone becomes completely surrounded by this process it forms a sequestrum. This is an important point in differential diagnosis, as malignancy invades in all directions equally and never produces sequestra. The whole process is accompanied by bone destruction and new bone formation. In virulent infection the destruction is rapid with but little new bone formation. In chronic cases there is less destruction and more new bone production.

New bone is produced at the point of greatest stimulation, that is where the infection stops, as the process pierces the periosteum. This occurs in several places, leaving normal cortex intervening, and this is an important point, as malignancy completely destroys the part as a whole. Therefore we find our new bone formation at the edge and not in the center of the involved area. The production of new bone at the edges defines the boundary of the infection by forming an involucrum. This is important in differentiating, as benign tumors and cysts expand the bone without a limiting layer of new bone formation. In the chronic type, seen more frequently beyond adult life, there is extensive new bone production with small areas of destruction. The medullary canal appears obliterated and the whole bone thickened. Early diagnosis and prompt treatment save destruction.

Tubercular osteomyelitis is extremely rare in adults. It is, however, fairly common in children, as dactylitis, involving

one or more bones. It occasionally occurs in the shaft of long bones, and as such it usually starts in the cancellous parts of the bone and proceeds to the medullary canal, similar to ordinary osteomyelitis. There is thickening of the periosteum but no new bone formation. It is frequently multiple and often invades the neighboring joints. The frequency with which tuberculosis attacks the spine is well known. Tuberculosis of the joint gives a hazy appearance by *x*-ray examination.

Syphilitic bone involvement may result from congenital or acquired disease and is perhaps the most common bone lesion. Periostitis frequently involves more than one bone. The new bone deposits usually run parallel to the shaft, occasionally they run perpendicular producing a lace work appearance. Luetic osteomyelitis presents bone changes simulating those of the inflammatory type, without the inflammatory reaction and clinical picture. There is decidedly more bone production than destruction. Congenital lues attacks the epiphyseal line, producing partial destruction, with marked periostitis of shaft, but no bone atrophy or destruction.

The nutritional disturbances, rickets and scurvy occur in youngsters. The rachitic joint being very characteristic, with softened epiphyseal line, which is broadened, producing a saucer shaped appearance. The shaft is softened and atrophic. There is no periostitis and its occurrence is multiple.

Scurvy is a multiple disease involving both joints and shaft. The chief characteristic is the diaphyseal side of the epiphyseal line, is the seat of attack producing a change simulating in appearance a second epiphyseal line. There is periostitis of the shaft with frequent hemorrhage. The organized clot may be confused with sarcoma.

New growths are either benign or malignant and may involve any part of the bone except the articular cartilages. The character of the growth and the treatment indicated can only be realized by a clear conception of the surgical pathology. The analysis of which includes age, sex, origin of tumor, (is it primary or metastatic?), location, the constituent part of bone involved, whether it invades or produces bone and the process of extension.

We begin our hypothesis by classifying malignant bone tumors as, carcinoma, round and spindle celled sarcoma, periosteal sarcoma, osteo sarcoma, hypernephroma and myeloma. As benign, giant cell tumor, (giant cell sarcoma) enchondroma or (osteochondroma) cysts. Osteoma, exostosis, fibroma, and myxoma which some times undergoes malignant changes. Osteitis fibrosa cystica, hemangioma and ossifying hemotoma, while not true bone tumors are best included in the analysis.

GENERAL PATHOLOGIC CONSIDERATIONS

Since there are no epithelial cells in bone, carcinoma is always metastatic, conveyed by blood or lymph. Since these vessels enter the bone by the nutrient canal, metastasis more often occurs in the center of the medullary canal. Sarcoma develops from connective tissue and may be either primary or metastatic. It usually begins near the end of the bone and may arise from the medullary canal or cortex. Periosteal sarcoma and osteo sarcoma are cortical in origin. They are the only type of malignant tumor within which new bone is produced. Hypernephroma and myeloma are metastatic and originate in the medullary canal. Enchrondromata may arise from either cortex or medullary canal, since they develop from the cartilaginous nests, which are found in both of these structures. Osteoma and exostosis are cortical in origin, while cysts and fibromata are of medullary origin.

Osteitis fibrosa cystica, hemangioma and ossifying hematoma are all connected with periosteum in their origin. Benign tumors arising in the medullary canal, because of their slow growth expand the cortex and assume a spindle or cylindrical shape. The cortex remains intact unless the growth is very large.

Malignant tumors originating in the medullary canal, because of their rapid growth invade and destroy the cortex equally in all directions. Therefore they assume a spherical shape. Sarcoma may be found at any age but is more frequently a disease of the young, while

carcinoma usually occurs beyond the middle age. All malignant tumors are invasive and destroy adjacent bone. Bone production does not take place within the tumor in carcinoma, round or spindle sarcoma, giant cell sarcoma or cysts, except as result of trauma. The only malignant tumors producing new bone within the tumor are osteosarcoma and periosteal sarcoma. Malignancy does not occur in the bones of the wrist, hand or of the ankle and feet.

All of the benign tumors produce bone except cysts, fibromata, and giant cell sarcoma. The manner in which the new bone deposits form furnish valuable information. In malignancy the formation runs perpendicular to the shaft while in benign growths the formation runs parallel, osteoma being the single exception.

Consideration of the individual tumor pathology will help to further clarify the subject. Carcinoma occurs most frequently in old age, is metastatic, develops from point of entrance of nutrient canal, at the center of the shaft. It does not produce bone but invades it equally in all directions, thereby producing a spherical mass.

Bone may become involved by carcinoma from any other part of the body. Breast carcinomata do not metastasize below the elbow or knee. Uterine and ovarian carcinoma seldom metastasize in bone. Bladder and prostatic carcinoma frequently involve the bones of the leg. Those from the prostate, because of their slow growth, produce a peculiar reaction in the bone just outside the tumor resulting in a layer of new bone deposit. There is no new bone produced within the tumor.

Round cell sarcoma, very malignant, may occur at any age, but usually found in children and young adults, may be primary or metastatic. It most frequently involves the end of the bone, involves bone in all directions equally, without new bone production.

Spindle cell sarcoma presents the same pathological changes with less activity than the round cell type.

Hypernephroma does not frequently matastasize to bone, but when it does seems to select the humerus.

Periosteal and osteosarcoma are the only malignant tumors producing new bone. Their chief difference is, that in the periosteal type there is very little bone destruction, and the bone production occurs in a manner entirely different from any other tumor. The new bone deposits are perpendicular to the shaft. The striae extend out into the soft tissue and are but faintly connected to the periosteum, giving it a radiant appearance.

The osseous type extends into the shaft and medullary canal as well as the soft tissue. The amount of bone production depends upon the rapidity of the growth. The striae are perpendicular.

Myeloma is an infrequent tumor, is not so malignant, may involve long bone as multiple tumors. Bence-Jones bodies occur in the urine.

Giant cell sarcoma develops in young adults as a benign tumor, frequently confused with malignancy, because it grows in all directions without new bone, and occasionally heals spontaneously.

Enchondroma or osteochondroma, a benign cartilaginous tumor of the young, usually occurring prior to epiphyseal union, is medullary or cortical in origin and occurs at the end of the bones. It expands but does not destroy the cortex and does not destroy or produce new bone unless fracture occurs, which is quite common. This tumor results from cartilaginous nests. It is cystic in character, and practically always multiple. It occurs most frequently in the bones of the hand.

Cysts are frequently confused with enchondromata. They are clearly outlined and more frequently single. Their pathological change are similar to those of other benign growths.

Osteoma is a solid bone tumor extending out into the soft tissue. This is the only benign tumor in which we find bone deposits perpendicular to the shaft. The growth has a cauliflower appearance, and contains small areas of cartilage.

Exostoses are of two types, table top and pencil. They are solid bone tumors but are occasionally topped by osteomata. The pencil type grows away from the joint.

Osteitis fibrosa cystica most always occur in children. It lies between an inflammatory process and bone tumor. Since the clinical signs of inflammation are not evident, it is classified with the latter. The tibia and fibula are its favorite locations. Softening of the bones with frequent fractures, or bending, as in rickets, is one of its chief characteristics. The bone may be involved throughout a greater portion of its extent and in this respect simulates an osteomyelitis. Large or small cyst like areas appear in the medullary canal expanding but not destroying the cortex.

Hemangiomata frequently involve the feet, hands and forearm. They are fluctuating tumors not connected with the bone, but have small calcareous deposits not unlike embedded shot. They are essentially benign.

Ossifying hematoma when occurring in children, is most frequently associated with scurvy, in which the periosteum is elevated by hemorrhage and undergoes calcareous changes. When occurring in adults it is the result of slight trauma, surrounds the bone and is definitely limited.

In presenting this subject, I have endeavored to consider the various conditions in a way which I hope will give a more practical working knowledge of bone surgery.

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Coronary Artery Disease in Working Classes

Ernst P. Boas, New York, and Samuel Donner, Hartford, Connecticut (Journal A.M.A., June 18, 1932), present the results of an analysis that they made of 615 males and females of the industrial class in New York City who were referred with the presumptive diagnosis of heart disease. Eighty-eight per cent of the population from which these patients were drawn were under the age of 50. Almost one-third of the 615 referred patients had disease of the coronary arteries. Of those with disease of the coronary arteries, 71 per cent were under the age of 51. This represents an exceptionally high frequency of coronary artery disease, which is all the more remarkable in view of the preponderance of individuals under the age of 50. The author's data demonstrate that coronary artery disease, contrary to general belief, is more common, and occurs earlier in life, at least in certain groups of industrial workers. They suggest the desirability of further studies along similar lines with different racial and occupational groups.

SENSIBLE FOOD FOR DIABETICS

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Since the introduction of insulin, diet in the treatment of diabetes is more necessary than ever before. At the same time diet can be more normal now than ever. Gone is the day when diabetics live a life of torment and starvation in order to live at all.

The fundamental difference between the diabetic and the healthy non-diabetic is the diminished ability to metabolize carbohydrates. Effective treatment then must consist essentially in compensating for the impaired metabolic function by figuring out suitable food intake to meet the needs of the body, and if necessary, adding insulin. In actual practice, treatment of diabetes means the balancing of metabolic capacity against metabolic load. Obviously, the more accurate the balance the more perfect is the result, although it is well known that the body can take care of 10-20 units overdosage of insulin daily in certain cases without reaction. This is due to the shock absorber action of the pancreas or "loafing" as it is sometimes termed. The pancreas, when not required to produce insulin, may rest when there is sufficient exogenous insulin being supplied. The more severe the diabetic the less insulin is being manufactured by the pancreas, and the less the shock absorbing ability present; therefore, the more likelihood of insulin shock.

The general practitioner who has access to a hospital and laboratory should be prepared to treat diabetes. It is no longer necessary to call in the specialist as it was when insulin was first introduced. The action and use of insulin has been so well worked out that any intelligent doctor can acquaint himself with the use of diet and insulin and can successfully treat the ordinary case of diabetes. We do not agree, however, that any case of diabetes should be treated with insulin without carefully working out a maintenance diet and the proper dose of in-

*Read at the 74th annual meeting of the Kansas Medical Society, May 3, 4 and 5, 1932, Kansas City, Kansas.

sulin to balance it; then instructing the family so that they can handle the routine. This practice is unfair to the patient, detrimental to the doctor and gives the wrong impression of the value of insulin. If we are unwilling to do this, or the patient is too ignorant to learn the simple scheme and unable to follow the directions, it would be better not to use insulin, for we must admit that insulin is a very potent drug and that there is only one safe way to use it; namely, by properly balancing insulin against diet and checking up frequently by urinalyses and, if possible, occasionally by blood sugar estimations.

The greatest boon to the diabetic since insulin, is the higher carbohydrate diet. The length of life of diabetics has been considerably increased due first to insulin, and later to the greater freedom in giving carbohydrates. Now our patients are dying of intercurrent diseases and diseases of old age rather than diabetic sequelae.

In the treatment of diabetes we hope to accomplish the following results in the order named:

1. To free the patient from ketone bodies.
2. To provide a proper maintenance diet.
3. To free the urine from sugar.
4. To establish a normal blood sugar.

In mild cases all of these aims may be accomplished by diet alone, but in most of our cases, especially in the younger diabetics, one cannot burn enough carbohydrates to insure safety against ketosis without giving some insulin along with diet. The most important thing in a new case of diabetes is to find out whether or not he is running diacetic acid and acetone in his urine, and if so, free him from this, the greatest danger in diabetes. As we well know, fats will only oxidize completely when there is sufficient carbohydrate being burned. In other words, when there is an inadequate amount of carbohydrate being burned the fats will be imperfectly split up with the resulting diacetic acid and acetone. These ketones are powerful poisons and incompatible with life. The fats burned may be exogenous, the fats from foods; or endogenous, the fats from body tissues. If insufficient fats are eaten, the body fats are burned with resulting loss of weight.

Shaffer[1] has shown that ketosis cannot be avoided entirely unless the patient burns in his body one part by weight of carbohydrate to one part of fat. If the ratio of carbohydrate to fat falls below 1:1, ketosis develops. We see then that a patient with the old type of diet—one that approximates one part of carbohydrate to one of fat—is in constant danger. Infections, lowering the carbohydrate tolerance or vomiting and diarrhea causing a failure of carbohydrate utilization would cause incomplete oxidation of fats, with ketone bodies piling up in the blood stream. We have all seen diabetics put on a low carbohydrate diet to free the urine of sugar, and then suddenly go into coma. The following cases will illustrate the danger of fat in the diet.

A. H. A girl, 6 years old under treatment with the old 1-1½-3 diet, kept sugar free and developed normally with her weight a little under normal. But she kept having attacks of ketosis. Sometimes during a cold or tonsillitis, or apparently without known cause she would start to vomit with flushing of face, rapid pulse, increased respiration and diacetic acid in the urine coming on nearly always at night.

We would have to take away all of her diet except carbohydrates, increase her insulin, and in a few hours the condition would be under control. This happened over and over so many times that we were discouraged and at a loss to know how to successfully manage the case. Her diet was correct according to the accepted formula at that time. Her insulin balanced so that there was no sugar in her urine. Her blood sugar was normal. Her ketogenic antiketogenic ratio was correct according to formula, but as we know now, her amount of fat was too great for the amount of available glucose, and when infections came along to lower her tolerance, or when her endogenous supply of insulin was reduced so that sufficient carbohydrate was not burned, ketosis developed.

After changing this child over to the higher carbohydrate diet there has been no further trouble, although she has had plenty of opportunities. The change in her condition has been almost miraculous.

H. G. A boy, 15 years of age on the 1-1½-3 diet, was getting along well until Christmas time came. I received a hurry up call to see him and found him in coma with heavy sugar and ketone bodies in the urine. His parents insisted that he had not broken over and eaten candy as I had at first thought, but had eaten great quantities of nuts, which he thought would be less harmful because they contained no sugar. Here was vivid proof of the harmfulness of fat. It would have been much safer had the boy eaten Christmas candies rather than nuts. There was not enough carbohydrate being burned to take care of this big load of fat and consequently the fats were not completely burned and ketosis developed. He quickly reacted to intravenous insulin and glucose.

We must remember that there is no hard and fast rule that can be employed in feeding the diabetic. Many types of diet have kept people alive. Before the insulin era we were compelled to observe closely the fatty acid-glucose ratio because, in order to provide calories enough to nourish the body, fat and protein were of a necessity the main stays. Carbohydrate could not be depended upon to furnish much of the fuel. It was not unusual to see an adult on a diet of C 26, P 70, F 70—a dangerous diet to be sure, on the verge of ketosis all the time, with a fatty acid-glucose ratio of 1:1½. Almost a starvation diet with only about 1000 calories to keep up weight and strength. But there was no other alternative and it was truly remarkable that patients could get along at all. Little wonder that many chose to die rather than try to exist on such a diet. Then after insulin was introduced, doctors were afraid to raise the amount of carbohydrate to any great extent, still believing that a patient should take as little as possible. This, no doubt, came about from the fact that Allen had just previously revived the old starvation method of treatment with quite a degree of success. However, a good many men did raise their diets to 70 or 80 grams of carbohydrate and believed that they had a very good diet.

Joslin[2] states that in a series of cases of six groups of thirty cases each, under observation from 1915 to 1931, the carbohydrate content varied from 26 grams in 1915 to 144 grams in 1931. Even without insulin it rose to 43 grams in 1916, and following the introduction of insulin reached 71 grams in 1923 and 96 grams in 1927. Now "The average carbohydrate in representative groups at the New England Deaconess Hospital varies between 125 and 144 grams." The trend has been constantly toward increasing of the carbohydrates in most parts of the United States and Europe. The pendulum has swung far to the other extreme until quantities as high as 300 grams and more are being used in some localities.

Many schemes have been devised to graphically show the relative amounts of carbohydrate, protein and fat. It is generally accepted that an adult needs 1 gram of protein for each kilogram of body weight. Taking this as a standard, one of the first formulas used was C 1, P 1, F 2½, for patients with normal weight. For a man of 150 pounds weight (70 kilos) his diet would be C 70 grams, P 70 grams, F 175 grams. A fatty acid-glucose ratio of 1:1.5, and furnishing 2135 calories. Later Dr. Major came out with his scheme of C 1, P 2, F 3. This was a clever method of calculating diets, but the amount of fat was out of proportion to the carbohydrate. A 2000 calorie diet would read C 50, P 100, F 150.

In the practical application of these formulas we find that it is very difficult to get along with such a small amount of carbohydrate. For instance, a slice of bread each meal totals 54 grams of carbohydrate. We readily see that it is out of the question to figure on bread as a food. We come then to the question as to what is the greatest hardship in a diabetic's diet? It has been my experience that it is always the same story. "Doctor, I can give up anything if you will let me have some bread. I cannot eat without bread." There have been more things

concocted to take the place of bread for diabetics than any other article in diets. Substitute breads have been made from dozens of materials and none of them successful or satisfying. With the higher carbohydrate diet ordinary white bread becomes one of the constituents of every meal. Bran, soy bean, gluten, listers and other substitute breads have been eliminated from our diets.

Now what is meant by the proper amount of carbohydrate? I believe that every diabetic should have twice as much carbohydrate as fat. A 2000 calorie diet then for a 70 kilogram patient could be divided about as follows: C 200, P 70, F 100 (grams). Joslin[2] now says "It is perhaps fair to say that at present a carbohydrate content of the diabetic diet between 100 and 200 grams can be accepted as a standard range. Whereas below 100 grams is almost as experimental as a carbohydrate content above 200 grams." Sansum[4] goes still farther and gives twice as much carbohydrate as fat which often amounts to 200 up to 300 grams for an adult.

Workers[3] in the Sansum Clinic found that insulin has some functions yet unknown in the metabolism of fats, so that in a given case running no sugar in the urine 100 grams of fat could be taken from the diet and 130 grams of carbohydrate added without the need of additional insulin. Barach[5] in a recent article reports 150 cases that have been put on the higher carbohydrate diet. He says, "While the average allowance of carbohydrate has been increased 70 grams daily, I have had to increase the insulin only 3 units a day. This is evidence of the fact that insulin applies to the total metabolism, or that 1 gram of fat creates the need for as much insulin as 2 grams of carbohydrate." Many other workers have found this true and have proven to their own satisfaction that insulin has something to do with fats. This is the reason that a low fat—high carbohydrate diet is practical, and as we have shown, much safer and more desirable from every point of view, I have changed all of my diabetics to this diet in the past three years and patients are unanimous in their choice of this scheme and all are taking less insulin than before. Since changing to this diet, no patient has shown a sign of ketosis. Even though they have had acute colds, sinus infections, otitis media and tonsillitis, none have developed ketosis or had to have their diets modified to prevent this complication. We have proven this principle also in patients who have come in, out of balance and running a little sugar in the urine. By doing nothing but taking away a little of the fat from the diet, the sugar would disappear from the urine on the same dose of insulin.

ARTERIOSCLEROSIS

Before the insulin era, coma ranked first in the cause of death by diabetes, and heart disease second. Now heart disease is in first place. This is due to patients reaching greater age, developing arteriosclerosis, coronary disease and high blood pressure.

The high protein diets formerly used, without doubt, favored the development of arteriosclerosis, but it is agreed now that the use of 1 gram of protein for each kilogram of body weight is a safe standard to follow. Again *fat* is the *danger* food. Large amounts of fat in the diet cause an excess of cholesterol in the blood stream. Too much fat even though completely burned causes arteriosclerosis. Carbohydrates may produce arteriosclerosis only when used in amounts that cause obesity. It is, without doubt, the food that we must depend upon in our cases of arteriosclerosis. Joslin[6] says in regard to prevention of arteriosclerosis, "First of all the quantity (of fat) must be so low that body weight will eventually be kept normal or a trifle below normal. Fat in the tissues may do harm. Second, the diabetic who has seemed to me to develop arteriosclerosis at an abnormally early age has been the severe diabetic, kept alive hitherto upon a low carbohydrate high-fat diet."

OBESITY

The greatest factor in the cause of diabetes is obesity. One only needs to ask his patient what his greatest weight has been and nearly all will tell you that they have been greatly over weight at some time. It is a disease common among

the rich and indolent. Locomotive engineers are prone to diabetes. Their work is more mental than physical and they average about 20 per cent overweight. Adams[7] found that in 1000 cases at the Mayo Clinic no patient developed the disease who was more than 20 per cent underweight. It is rather common to see a husband and wife both afflicted with the disease due to exposure to rich food. The question of obesity is so important that every diabetic should be brought down to normal weight or slightly under, and kept there. He needs to be properly nourished, but not over fed.

PLANNING THE DIET

Doctors as a rule do not like to make out diets. They think of it as a complicated procedure, and many consequently try to get along without them and do not treat their diabetics as efficiently as they should.

First, it is necessary to have a diet that is not only appetizing and satisfying, but it must contain enough calories to provide strength for the duties the patient must perform. A man at hard labor needs a great many more calories per kilogram of body weight than the man doing office or desk work. It is impossible to say how many calories any given patient should have. Only experience will tell this. If the patient is under-nourished, he will lose weight and strength. So, for the average adult a menu of about 2000 calories is a good starting point.

One should think first of the food a person usually eats—leaving out the sugars. For breakfast: Fruit, bacon, eggs, toast, coffee. For lunch: Vegetables, meat, bread, butter and fruit. For dinner: Soups, meat, vegetables, salads, bread, butter and fruits. This is about the way normal people eat. These three meals should be divided equally as to amount of food. (See Maintenance Diet). Notice that there are about 66 grams of carbohydrate, 25 grams of protein, and about 33 grams of fat in each meal.

Now, we should see that our acid-base balance is correct. There should be an excess of alkaline-ash foods to counterbalance the acid-ash foods. We need only to remember that the acid-ash foods are meat, eggs, wheat and corn products. The vegetables and fruits should be generous.

Lastly, our diet must contain the essential vitamins and minerals necessary for health.

MAINTENANCE DIET FOR AVERAGE ADULT

	Grams	C	P	F
BREAKFAST				
Bacon	15	0	5	7.5
Egg (1)	....	0	6	6
Cereal	30	23	3	0
Cream 20 per cent	60	2	2	12
Toast	50	31	6	0
Butter	10	0	0	8
Fruit	120	12	0	0
Coffee	....	....	....	....
Total		68	22	33.5
LUNCH				
Vegetable 5-15%	250	15	5	0
Lean Meat	30	0	8	5
Bread (white)	45	24	4	0
Butter	25	0	0	20
Fruit 10-15%	150	15	0	0
Milk	240	12	8	8
Total		66	25	33
DINNER				
Vegetables 5-15%	250	15	5	0
Lean Meat or fish	30	0	8	5
Bread (white)	45	24	4	0
Butter	25	0	0	20
Fruit 10-15%	150	15	0	0
Milk	240	12	8	8
Total		66	25	33
Total for day		200	72	100
Calories about 2000				

ADVANTAGES OF HIGHER CARBOHYDRATE DIET

This diet is more normal. It gives a patient a sense of well being which is hard to describe, but about which he is very positive. He is more satisfied and easier handled. He doesn't break over his diet because he has enough carbohydrate to satisfy.

Psychologically, it is better for the patient. He does not feel that he is an outcast. He can associate with other people, go out to public dinners and entertainments without displaying his affliction before others. He can sit down with his family and eat the same foods that they eat. It is not necessary for his wife to prepare special dishes for him. These diabetic foods are expensive and generally poor substitutes for the real foods.

He can get his required food at any hotel or restaurant if his duties take him away from home.

Summarizing then—the higher carbohydrate diet:

1. Is safer from ketosis.
2. Tends toward the diet of normal people.
3. Is less liable to produce arteriosclerosis.
4. Is psychologically beneficial.
5. Takes no more insulin.

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LOBAR PNEUMONIA IN INFANTS AND YOUNG CHILDREN*

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If one takes up a text book of pediatrics and looks up the subject of pneumonia, he is at once struck with the fact that while bronchopneumonia is rightfully given much space and emphasis, lobar pneumonia receives little notice. He also will receive the impression bronchopneumonia is far more frequent than lobar pneumonia as a clinical entity. Perhaps the incidence of the two diseases varies in different localities and under different climatic conditions, but certainly if we except those bronchopneumonias that are terminal, lobar pneumonia in infants and young children closely approaches in frequency of occurrence bronchopneumonia in the northern portion of the United States.

It has always seemed to me that the impression of the greater frequency of bronchopneumonia has come from two sources. In the first place, there have been counted with the bronchopneumonias, probably with a certain degree of right, those terminal pneumonias which occur so frequently in children and especially in infants. This pneumonia, however, is only the end picture of a clinical entity which is really not in itself to be regarded in the same light as a bronchopneumonia which runs a rather definite course and gives a rather definite clinical picture. If as I say, we except this form of bronchopneumonia, lobar pneumonia assumes greater importance at this time of life. The second point is that in early days, statistics regarding pneumonia were gathered very largely from the "dead house" and it is a well-known fact that at this age bronchopneumonia is a much more serious affection than is lobar pneumonia.

With the use of the x-ray for diagnostic purposes and with a careful estimation of the clinical picture, certainly the incidence of error in our differentiation between these two conditions must be distinctly lowered. While conglomerate bronchopneumonia involving an entire lobe may at times occur, its frequency is not sufficient to alter materially statistics on two conditions.

While the number of cases directly under our control at Presbyterian Hospital is not large, still they offer perhaps in this instance a fairly good cross-section of the incidence of these two conditions. In the last ten years we have had 107 cases of bronchopneumonia and 118 cases of lobar pneumonia. The incidence of these as regards the years of age are as follows:

	Bronchopneumonia		Lobar Pneumonia	
	Cases	Deaths	Cases	Deaths
Under 1 year	65	39	29	7
Over 1 year	42	7	89	2

It would therefore seem that some definite clinical study of the cases of lobar pneumonia in infancy and childhood, should be undertaken.

THE ONSET

Under six years of age certainly we do not expect lobar pneumonia, or any other acute infection to be initiated with a chill. More likely, the child has some little upper respiratory infection which we disregard. It suddenly takes ill, the temperature shoots up; it frequently vomits. Occasionally a convulsion ushers in the

*Read at the 74th annual meeting of the Kansas Medical Society, May 3, 4 and 5, 1932, Kansas City, Kansas.

†Clinical Professor of Pediatrics, Rush Medical College.

picture. More often, however, the mother, or other attendant, finds that the child has a rather high temperature for which she cannot account. There may be some cough, but this is usually not severe at the beginning. The child is not prostrated to the degree we would expect when we consider the condition in an adult. The initial temperature may or may not be high; at times there is an acute rise to one hundred four, five or six, while at other times the temperature shows a tendency to go up rather gradually and may not reach its peak for four or five days. Usually, however, at the very beginning, there is an abrupt rise in temperature. The child may be rather cross or irritable, depending upon whether or not there is evidence of pain from pleural irritation. In other words, the onset of the pneumonia does not give us any special clue as to the nature of the condition. It is like the onset of so many other acute diseases in infants; it does not vary materially from an onset of severe sore throat, pyelitis or otitis media.

RESPIRATIONS

Respirations are usually rapid; rapid even out of proportion to the pulse and temperature. One should always be cautious about recording pulse and respiration in an infant. No record is of value unless the child be absolutely quiet, preferably asleep. The least disturbance may push up pulse and respiration even in a well child to the point where both become suggestive of disease. As usually taken in the hospital, pulse and respiration in children are of very little significance. It is only with a carefully trained nursing personnel used to caring for children and infants that one may expect the proper sort of co-operation in this respect. When, however, one has a careful record of respiration, rapid respiration constitutes one of the chief guides in early recognition of the presence of a lobar pneumonia. As the disease advances, the respiratory efforts become more frequent and labored. There develops the expiratory grunt and the dilatation of the alae nasi. If at any stage of the disease, there intervenes a pleurisy the respiratory efforts are seen to be much more labored and frequent. In estimating respiratory difficulties in children and especially in infants, we must always remember the younger the child the more is the respiration likely to be of the abdominal type, so that if we are to judge the depth of respiration, we must look rather to the abdomen than to the thorax.

COUGH

Cough is not as a rule an harassing symptom. Some cough is practically always present, but if these children be left alone, they are rarely racked by cough as sometimes occurs in the adult. It is of a great deal of importance to estimate in the young child the severity of the cough. Cough more than anything else has frequently led to unnecessary therapy. The interpretation of the severity of the cough should never be left to one as interested as the mother. A very careful estimate of the condition of the child and a careful review of the previous twenty-four hours will often show that anxiety of the mother and attendants sometimes has resulted in their exaggeration of the severity of the symptom. Cough in lobar pneumonia in infants, may I repeat, is rarely of a serious nature and in young children the same is largely true.

DIGESTIVE TROUBLES

The *gastro-intestinal tract* is rarely the seat of much disturbance. I realize that this point will be questioned by many who have had to treat this condition, but I feel that the statement is justified on the basis of my experience and I think there is an easy explanation for gastro-intestinal upsets. In the first place, the infant is never willing, nor able, to take the full amount of food which it does in health. For an adult in a like condition, we materially reduce the diet; do not attempt to give him anything like the amount of food which he takes normally. In other words when an infant is affected with lobar pneumonia all the attendants seem to think it necessary to fill him up with as much food as is possible to get into him. They do not realize the child himself is in most instances the best judge of the amount of food which he should take. You will rarely observe

gastro-intestinal complications in lobar pneumonia in a series of cases that have received no drug therapy by mouth. If the child with lobar pneumonia be treated rationally, if food be not forced, nauseous mixtures of various drugs for the sake of controlling cough be left out, gastro-intestinal symptoms are certainly extremely uncommon. There may be frequently some slight reduction in the number of stools and perhaps they may be somewhat stiffer than under perfectly normal conditions, but aside from this there is very little to be worried about in the gastro-intestinal tract in the vast majority of cases. Diarrhea of a severe degree is certainly uncommon.

PULSE

Pulse is rapid, but not in proportion to the respiration. The heart is rapid, but regular and strong. It is only in those cases where we have a valvular disturbance that the heart shows a tendency to break down as it does in the adult.

URINE

At the onset it is not uncommon to find a scanty urine, containing granular casts and perhaps a small amount of albumin. Sometimes during the course of the disease, there is to be found an increased number of cellular elements. Urinary complications of lobar pneumonia are certainly unusual. Occasionally after the course of the pneumonia, we encounter a hemorrhagic nephritis, but this is not a common complication and may be recorded in the line of a sequella just as it may often follow otitis media, or tonsillitis.

PHYSICAL EXAMINATION

The physical signs which characterize lobar pneumonia in adults rarely appear in the same sequence and to the same degree of uniformity in infants and young children. In the latter the most constant sign is probably dullness on *percussion*. This is usually found early and with a varied degree of constancy. It is not always present and often times is only encountered late in the disease. If we except an occasional rale which is not characteristic of lobar pneumonia, we may say that dullness practically always precedes the other lung signs. We must, however, realize that in a child it is extremely difficult at times to outline the area of dullness with anything like the same degree of accuracy which one can attain in the adult. It is frequently very difficult to outline dullness in the upper lobe. In babies usually the entire lobe must be involved before one can get any definite area of dullness. The older the child the more likely one is to get a definite area sharply outlined corresponding to a lobe. In young babies it is comparatively infrequent to be able, even with the most careful percussion, to outline a definite area of lung dullness. When we come to *auscultation* certainly the first finding that is definite is bronchial breathing. I find that comparatively few are able to detect bronchial breathing in the chest of the child. Bronchial breathing is by no means always loud, and always in my teaching, I have lain stress on the fact that it is the character of the breathing, in other words, the quality and not the quantity of the sound which is important. Where one is not used to examining the chest of an infant, a very good idea of bronchial breathing can always be obtained by placing the stethoscope to the right or left of the fourth or fifth dorsal spine. Another point about auscultation I think is especially true of infants. It is by no means always a detriment that the child cries, often times it is the only way in which one can get deep respirations and a little experience in examining the chest of an infant or young child will teach one to take advantage of the crying as a help rather than a hindrance. *Bronchial* breathing may or may not appear early in the disease; sometimes only the day before the crisis; sometimes the entire course of the disease may be run only to get bronchial breathing after the crisis. *Crepitant rales* are comparatively infrequent in the lobar pneumonias of this age. I should say that the majority of the cases run their course without such rales appearing. Sometimes in the early stages before consolidation can be determined we hear crackling rales over the lobe which later becomes affected. It is often times difficult to determine

whether such rales are mere transmissions from rather large bronchi, or whether they really represent involvement of lung tissue. They are, however, transient in nature and have comparatively little significance so far as I have been able to determine. The crepitant rale is too as a rule present only for a short time and may come and go in the course of the disease. *Friction rubs* are not often to be heard even though the child shows definite signs of pain on inspiration. Whether all cases of empyema are preceded during the active stage of the pneumonia by a definite pleurisy, I am not able to say, but certainly the occurrence of empyema is more frequent than the evidence that I have had of the presence of pleurisy during active stage of the disease. The upper respiratory tract is quite frequently the location of inflammation before the signs of pneumonia appear. Pharyngitis is almost always present as a bright red, inflamed throat. Hoarseness is not often present.

THE COURSE

The course is not greatly different from that in adults, but there are certain features which we should always bear in mind. There is a somewhat greater tendency for the disease to run a shorter time than in older individuals. Once in a while one will be able to distinguish a definitely abortive pneumonia, proven cases of this type it is true are few, but they are to be met with.

One little girl came into the hospital from an orphan asylum. The children in this institution are very carefully supervised and we note for instance that she had had no temperature until late in the afternoon of the day of entrance. She was seen by one of the physicians of the pediatric department of the medical school and had been sent to the hospital not because of pneumonia, but because of a high temperature and prostration, the cause of which he was not able to distinguish. Her temperature curve is as pictured (Fig. 1). Interesting to note, however, are the x-rays and while on physical examination we were able to de-

FIG. 1
Abortive pneumonia: termination by crisis with slight post-critical rise.

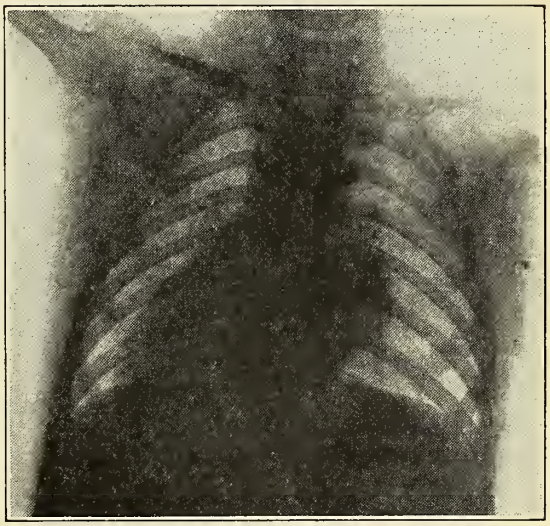

FIG. 2
Mildred H. Central pneumonia Abortive type 12/1/25

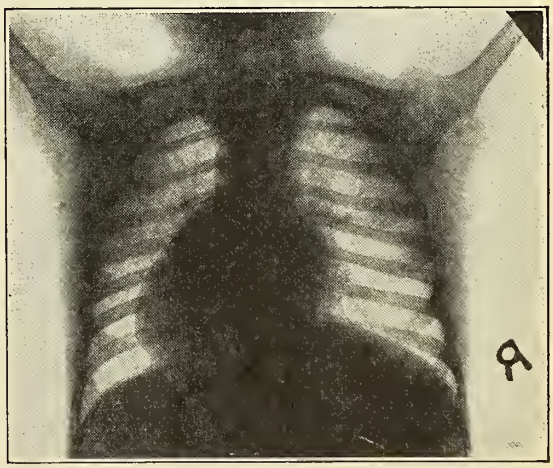

FIG. 3
Mildred H. 12/5/25. Shows the disappearance of shadow caused by central pneumonia.

termine no evidence of lobar pneumonia, the *x*-ray evidence was conclusive when we viewed the picture taken at the heighth of the fever and the one a few days afterward.

Very little has been written as to the *temperature* curve in this disease in children, but it certainly has a tendency to be much more varied than that of the adult. It is true in perhaps 20-25 per cent of the cases, a typical course with crisis is to be found, but it is not at all

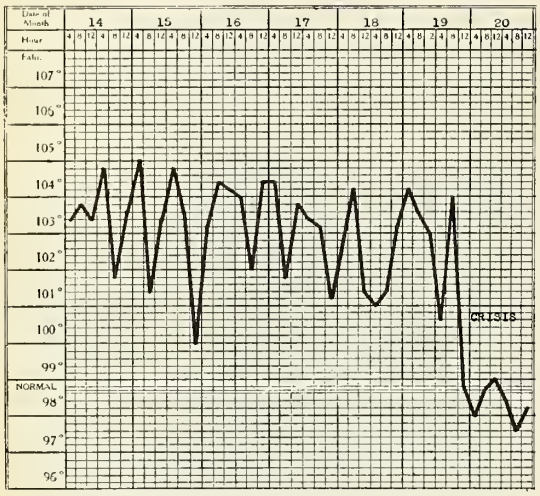

FIG. 4
Lobar pneumonia: termination by crisis.

unusual to have the course end with a pseudo-crisis to be followed in 24 hours by a real crisis. Ending by lysis is not unusual. A true septic temperature is encountered now and again. Once in a while one meets with a case where the

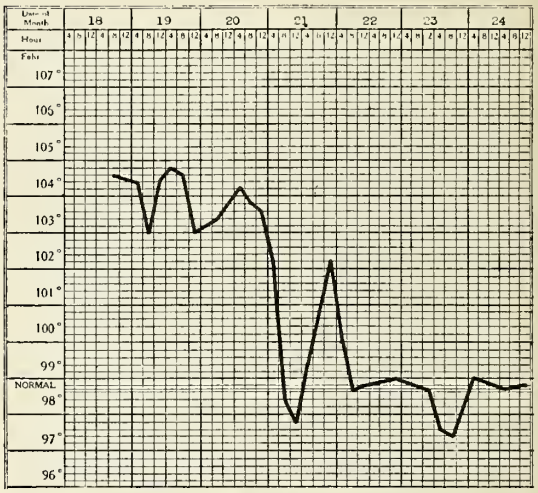

FIG. 6
Lobar pneumonia: termination by pseudo-crisis.

temperature is very little elevated. This is usually met with in children who are greatly depleted and often times ends fatally. As is well-known in children, there is a marked tendency for empyema to develop after the course of the pneumonia. Occasionally one meets with other complications such as pericarditis, but as a rule when the course of the fever is definitely ended, the child makes a rather rapid recovery.

In marked contra-distinction to the

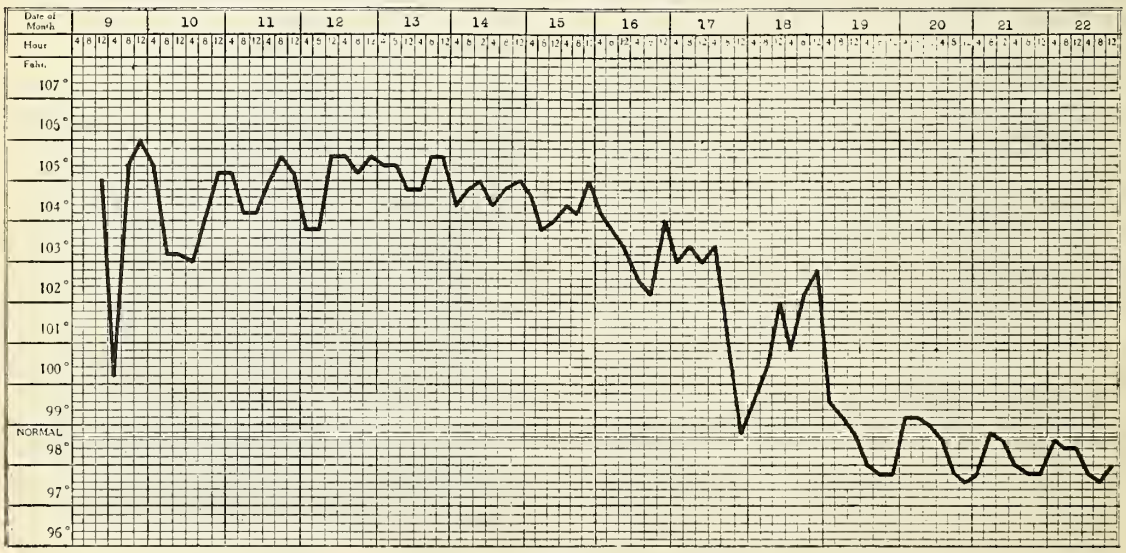

FIG. 5
Lobar pneumonia: another form of termination by pseudo-crisis.

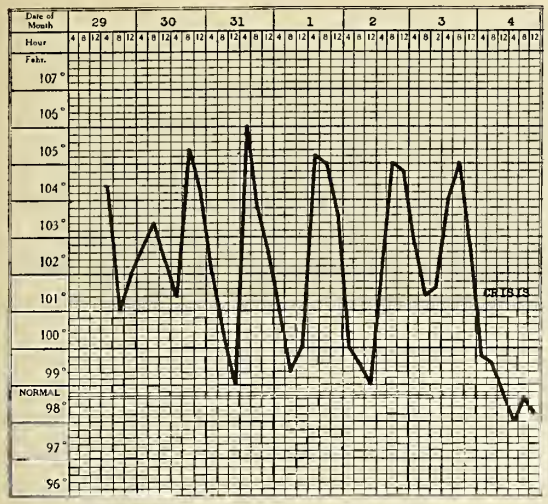

FIG. 7
Lobar pneumonia: septic temperature with termination by crisis.

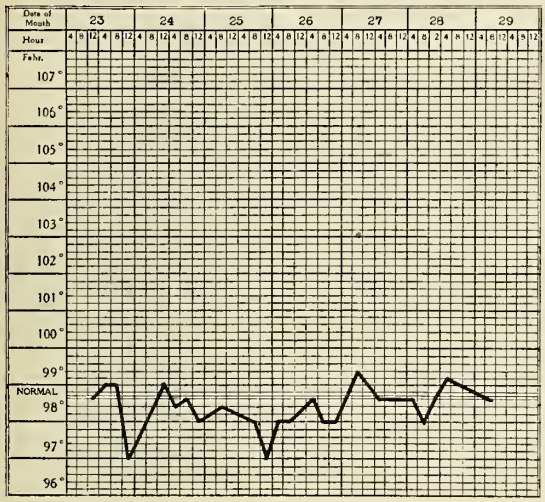

FIG. 8
Lobar pneumonia: fatal termination with practically no rise in temperature.

condition in the adult, heart weakness is of relatively rare occurrence and this much dreaded phenomenon in the adult is not a source of great danger in the infant and young child. Occasionally when the course is a severe or septic one with high sustaining temperature of one hundred five or six, just before the crisis these infants may become slightly cyanotic, but this symptom is not nearly as frequently met with as in bronchopneumonia.

Delayed resolution and unresolved pneumonia are sometimes seen. The latter may exist for several weeks, but nearly always cleans up without leaving untoward symptoms. While there may be temperature and all the signs of consolidation in these cases, the children rarely show much prostration.

DIAGNOSIS

The diagnostic features which have seemed to me to be most significant are the early increased respiratory rate and the evidence of consolidation either on physical examination or in the *x*-ray. Often times these children are not much prostrated, certainly not as much as we would expect and it is difficult to imagine a child, in the general condition in which we see it, to be suffering from a lobar pneumonia. The course of the temperature helps us little in many cases, but the presence of an area of bronchial breathing in the region where we have obtained dullness is of the greatest importance. It is not always easy to be sure of dull areas on percussion in young infants. The reason for this I am not sure of, but certainly in many instances where we have obtained a dull note over the thorax, our suspicions are not confirmed by the *x*-ray. Strange as it may seem in every instance the *x*-ray does not give us definite evidence, though in most it does. Early in the disease as a rule the *x*-ray is positive, but it may be a matter of days before there is sufficient consolidation to show a definite shadow. We see, therefore, in lobar pneumonia as in every other disease, it is not the presence of one typical symptom, but a final judgment of all the phenomena present which makes the diagnosis.

To be differentiated of course are such conditions as pleurisy with effusion, unresolved pneumonia, massive bronchopneumonia and tuberculous pneumonia, or epi-tuberculous infiltration. One should always remember in differentiating pleurisy with effusion in young infants that the note to be heard over the dull area is frequently bronchial rather than a loss of breath sounds and that occasionally in a massive lobar pneumonia, there is a loss of breath sounds rather than bronchial breathing. The area in pleurisy with effusion does not cover as a rule the same region as does that of lobar pneumonia. In the small chest,

however, to distinguish the shift of fluid is extremely difficult.

Unresolved pneumonia has already been spoken of and usually the history gives us a good idea of the situation. It is often times impossible to distinguish between massive bronchopneumonia and lobar pneumonia. There is usually greater prostration in the former and a definite tendency to some cyanosis (heart weakness). The temperature curve is much more likely to be septic but taken by and large in a certain number of cases it is impossible to distinguish between the two.

The tuberculous conditions are rarely associated with as much general disturbance. The temperature is not as marked; the prostration is not as great. A positive tuberculin reaction is of the greatest value in these young children and often times the *x*-ray will show a primary focus outside of the area of consolidation. There, too, is much more likely to be in the *x*-ray evidence of enlargement of the peribronchial glands. The course in the tuberculous condition is naturally much more prolonged, sometimes lasting for months, but after all, the chief points in differentiating must be the general condition of the child and the presence of a positive tuberculin reaction, supplemented by a careful history.

PROGNOSIS

As previously stated the reason that lobar pneumonia in infants and young children has been regarded as relatively uncommon, at least as so much less frequent than in bronchopneumonia, has rested upon the fact that bronchopneumonia is so much more deadly. In our series of cases at Presbyterian Hospital the death total for all children was 9. Seven under one year of age, a rate of approximately 25 per cent under one year and only about 2 per cent in older infants and children. Of course, this series is a comparatively small one and we cannot draw any definite conclusions from it, but it does represent a group of cases which have been carefully analyzed and is as far as it goes, fairly accurate. When it comes to complications, it was a surprise to me to see how many of our cases had been complicated by an otitis media and how relatively few of them had had empyema. I suspect these complications depend a great deal upon the type of infection which happens to be dominant during the period the pneumonia is running its course. We all know that from year to year respiratory infections show an entirely different set of complications; one year it is otitis media, another year acute hemorrhagic nephritis and another year something else. Taken over a ten year period as these figures are, they probably represent a fairly good average. There are certain things that affect the prognosis if I have evaluated the facts accurately. It has been my impression there is a marked tendency on the part of the medical profession to overtreat this disease in children and I fully believe that the common treatment administered is such as to lower rather than elevate the child's chances of recovery. I will speak of this in a few minutes with regard to treatment, but I think it should be mentioned here since it probably does hinder very seriously indeed the question of prognosis. The tendency has been, of course, to treat these children as small adults. In other words, to treat lobar pneumonia in children as you would in adults. I personally, do not believe such an attitude is justified.

TREATMENT

So far as I have been able to judge, no treatment of lobar pneumonia can be regarded as specific. The use of serums and vaccines are, to say the most, in the investigative stage, and as yet I fail to see any evidence that would lead us to the conclusion that we can depend upon such in the treatment of our cases. We are, therefore, limited to the care of the general health of the patient and to the treatment of symptoms as they arise. The care of the general health in the infant and child means practically two things, *nursing care* and *diet*. It seems to me there is one principle in the treatment of these children from the standpoint of nursing care that has not been sufficiently emphasized, and that is the use of judgment in their handling. The child with pneumonia is exhausted by over-handling. Every means should be taken to conserve the strength of the child by leaving it

alone. It is in cases like these where the doctor is at his wits-end to look after the spoilt child. It is here that the spoilt child's life is really jeopardized by its lack of discipline. In the early stages they may not be prostrated and as a consequence they demand what they have been used to. They are not subject to discipline, hence insist that the mother hold them, rock them and play with them. In my opinion nothing could be worse for these children. One thing that nature gives them is their strength and this is exhausted by continual efforts to satisfy a craving which cannot be satisfied. The result is the child wears itself out and everybody else. With such a child, it is frequently a decided advantage to have it in the hospital, not in a private room, but in a ward well-screened where it cannot be subjected to repeated visits on the part of the parents and relatives.

Much has been said regarding the *air* for these children. I have not seen that it makes a great deal of difference provided the child gets plenty of fresh air. By this I mean that it is not necessary to go to great lengths to see that the child has plenty of cold air. It is, however, perfectly true that children with lobar pneumonia are not adversely affected by cold air as near as can be determined, but that cold air is necessary for their recovery I think is doubtful, nor do I think that it has any special effect. Often times because of cold air, covers are piled on the bed with a consequence that the respiration is naturally impeded.

This brings one to the subject of the *clothing*. I think that the pneumonia jacket of by-gone days and fame is probably pretty well discarded. I have never seen that it was of any value in these cases. I have frequently seen that it acted as an impediment to breathing. Of course, what is said of a pneumonia jacket may be doubly said with regard to such applications as the various pastes of a sticky nature which are put on the child's chest. I cannot see how these can possibly do any good and I feel very certain that they do great harm in making it harder for the child to breathe. I need not say that these measures have not been resorted to in the treatment of cases which I am mentioning here. The use of tonics during the course of the disease is not only without value, but it is definitely harmful and the younger the child the more this is true. Practically never is it necessary to give such tonics and all tonics given under these conditions lead to gastric irritation and rejection of food. The answer to the question of *diet* is a definite one. The child takes sufficient food to carry it along and in most instances efforts to increase this quantity only result in rejection and vomiting. Forcing food is a great mistake and should rarely be resorted to. For the infant there is no special reason for changing the formula and for older infants and young children liquid foods are to be preferred. Milk as always is the basis, but we must always more or less cater to the child's appetite and not try to force upon it something that will not be acceptable. Orange juice is peculiarly good if the child likes it because it gives a certain amount of alkalinity which is probably of some value. Attempts, however, to alkalinize these young children frequently result in gastric disturbance, vomiting and refusal of food. This is just another instance of treating the disease and forgetting the child.

When it comes to *symptomatic* treatment, very few symptoms demand attention; in the majority of instances none. Occasionally the temperature is a source of worry. We must remember, however, a temperature of 105 degrees in this disease is not alarming and calls for no special treatment. Hydro-therapy in the form of cold sponges or alcohol rubs, is probably the best of the measures for its control. The antipyretics are not to be considered because of the effect upon the heart. It must be admitted, however, in most instances, the results obtained with hydro-therapy are decidedly disappointing. We must use judgment with hydro-therapy because it is not without possibilities of harm if administered just previous to the crisis, or during the crisis and if the child resists the measures taken and is irritated by them. Most children with lobar pneumonia come through very well without any attention being paid to the temperature.

I am personally strongly of the opinion that many mistakes have been made in the treatment of lobar pneumonia in children by giving cough mixtures. In my experience the cough has been much more disturbing to the family than to the child. The usual cough mixtures which are advised are very irritative and nauseous, resulting not only in the child's vomiting, but in its refusal to take food. We then by giving cough mixtures remove or weaken one of the chief props which help us in saving the child's life, that is, we have destroyed to a large extent the nutritional help which we so much need and desire. No cough mixtures are effective, or have been in my experience, unless the particular ingredient is some form of opium. I have been very much impressed with the observation which has been purely empirical to the effect that children with pneumonia who receive opiates do not do so well. When we come down to the final decision regarding the treatment of the cough in the child, we must therefore consider it from very many different view-points. The first is whether the child will be more greatly benefited by treatment or without it. In a vast majority of cases the cough in lobar pneumonia in infants and young children is not an harassing symptom and the child is far better off without any treatment. If, however, in the judgment of the physician the cough be a serious one then allow me to beg of you not to put together a cough mixture of the usual sort, but to use some simple form of opiate such as, codein, or even morphin in the proper dosage and not disturb the child's stomach by giving a nauseous mixture consisting of ammonia compounds and what not. Let us meet the parents' insistence with a definite statement of the facts; let us treat the child and not the cough and not the disease.

There is one other circumstance which requires special attention and that is the question of heart weakening during the course, or towards the end of the course of a lobar pneumonia. Happily we have to treat in most instances, a heart whose musculature is perfectly strong and active, so that the question of stimulation is not as frequently met with in the young child as in the adult; this probably accounts in a large measure for the fact the death rate in children is so low. The rapidity of the heart rate offers very little information. Very rapid pulse rate is frequently met with in a child who is perfectly comfortable and shows no signs of heart break down. The chief evidence of cardiac failure is usually to be seen in cyanosis, which appears about the lips, nose and mouth. When such occurs, however, we usually stimulate these children; the stimulation to be used is not a matter of great moment. Digitalis in some form, or caffein, seem to both act well. It should be noted, however, that caffein is peculiarly effective at this age. The children apparently have not been accustomed to the use of coffee or tea and consequently get the full effect of caffein stimulation. I rather prefer caffein to other stimulants. In spite of the fact that pharmacologists tell us strychnia is not much of a stimulant, it has seemed to me to have helped out occasionally. I would also like to go on record as much preferring hypodermic medication to oral.

In concluding, I should like to call your attention to two or three things. In the first place, we are treating a child and not an adult. In the second place, we are treating a child and not a disease; and in the third place, we are treating a child and not a symptom, but most of all I want to call to your attention the fact that we are treating a child and not the family. We should not allow our better judgment to be biased by complaining relatives. It is a difficult task to combat the desires of an anxious mother, but if it is in the interest of our patient we must do so. If we simply give these children rest, fresh air and proper commonsense attention to the diet, in the majority of instances that is all they need. We must always be on the look-out for cardiac break down and this is where the chief function of the physician comes. He must be the one to determine whether or not some stimulation is necessary and if necessary, when and how it should be

given. In other words, I consider the treatment of this disease is much like that of normal labor; watchful expectancy.

UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

The Present Status of Transurethral Operations Upon the Prostate

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Department of Urology

During the past year there has been a great wave of enthusiasm among urologists for prostatic resection by transurethral or cystoscopic methods. How this all came about is a long and interesting story. There is no doubt that this closed attack upon the obstructing bladder neck has had its roots deep in the past. Guthrie, in 1832, devised an instrument which was a sharp knife concealed in a catheter and was intended to incise bars at the bladder neck. Mercier, a French surgeon, in 1837, invented an instrument intended for the purpose of cutting out pieces from a prostatic obstruction or bar and his instrument was the very first of the punch instruments, in fact all of the later ones of whatever design or name were all patterned after Mercier's instrument. Neither Guthrie nor Mercier ever lived to see their devices of much practical use. Then after a long interval, Bottini, in 1873, invented a galvano cautery with a blade that could be heated by electricity and incision made through the enlarged prostate. This seemed to be quite an advance for a time, but the results proved to be not very encouraging. In 1888, McGill of Leads began to do partial prostatectomy by the suprapubic route and in 1889, presented twelve cases before the British Medical Association. Fuller in New York and Belfield in Chicago also began to do suprapubic prostatectomy in the 1890's.

The great impetus came when Sir Peter Freyer, then Colonel Peter Freyer, late of the British India medical service and newly settled in London, in his Harley Street office announced in June, 1901, he had successfully and completely enucleated and removed entire, the prostate in four cases. His claims that he was the first to completely enucleate the prostate, and his ignoring of the work of his contemporaries, raised a storm of controversy and criticism that rather enhanced his reputation as "premier prostatectomist" of that day and in a surprisingly short time he had sixteen hundred cases to report, done with his own hands.

About the same time Senn, Albarran, Petit, Moore, Murphy, Bryson, Proust and Young began the perineal attack upon the enlarged prostate and Hugh Young and his school have developed the perineal operation in this country to its highest technical level.

It was soon seen, as pointed out by the elder Keyes, the mortality rates in prostatectomy were terrible, that is, one out of three subjected to operation died an operative death. Many factors with which you are all familiar worked together to better this condition later, but this was in the 1890's. Freudenberg, in 1897, wrote a paper on the Bottini operation and presented an improved instrument. Chetwood, the younger Keyes and others did a modified Bottini operation through a perineal incision. Young, in 1908, presented a punch patterned after Mercier's idea of 1837, but vastly improved. Edwin Beer in New York was the first to make use of the high frequency current to coagulate bladder tumors through a cystoscope. In 1912, Luys in Paris and others then began to use this high frequency current to coagulate the enlarged prostate with the idea that the coagulated portion would slough out and the remainder shrink down. There are many advocates of this procedure each thinking he is the originator of the idea. Caulk, in 1919, presented us with his cautery punch with which you are all familiar. Collings a few years later thought he had something in the way of a high frequency cutting knife with which he could wear away a prostatic lobe by sawing on it. Collings has now joined the resectionists.

This is the way matters stood until 1926. During the year 1925, Maximilian Stern, a New York urologist, began to

work with the high frequency loop and conceived the idea he could cut out the prostatic obstruction bit by bit by this means and devised an instrument made by Rheinhold Wappler and known as the Stern resectoscope. Stern read a paper before the American Medical Association meeting at Dallas, Texas in April, 1926, and reported forty-one cases. No particular stir was made over this presentation and except for the fact that T. M. Davis of Greenville, South Carolina was present, perhaps nothing would ever have come of it. Davis obtained the Stern resectoscope and electrical apparatus for activating the loop and began in earnest to work out a problem for which he could see such vast possibilities.

Then Joseph McCarthy of New York thought this work could be done better through his pan endoscope than with the Stern resectoscope and he devised a semicircular loop to be used free, or loose, in the pan endoscope. Then Davis and McCarthy stampeded all the American urologists into this craze for the transurethral attack. Now that we are into it what is the situation at the present moment? At the New Orleans meeting of the American Medical Association there was a symposium of five papers on this subject and the subject was well discussed. At the American Urological Meeting in Toronto, two weeks later, another symposium was presented and seven papers were read on the subject and it was thoroughly considered from every angle. As near as I can tell there seems to be three or four groups or camps, each with his particular following.

Group one consists of those who favor the punch methods and believe as good work can be done by the various tubular knives, both hot and cold supplemented by coagulation to control hemorrhage. This group is led by Caulk of St. Louis and ably abetted by Bumpus of the Mayo Clinic; each presents an astounding array of cases operated upon.

Group two is the smaller but no less persistent group who still use coagulation to destroy the obstructing prostatic tissue. They are rapidly deserting and going to the third group.

Group three is that ever increasing crowd that should perhaps be known as the "resectionists" who are using one of three or four types of resectoscopes and are by means of the cutting current removing the prostate bit by bit.

Just now groups one and two claim to have invented all the transurethral attacks and they claim to be the real pioneers but the "resectionists" are numerically the strongest and seem to have the best tools to work with. I have been working on the group three method for more than a year and have learned many facts about it. I estimate that eight thousand to ten thousand urologists and pseudo-urologists are busily engaged in this unprecedented but perhaps not wholly unwarranted attack upon the offending prostate. Just what will come out of it is difficult indeed to predict. I venture to say each of the ten thousand who have gone into this will have spent from $500 to $1,500 for new apparatus to the enrichment of the instrument makers before he is through. The pitiful part is that most of this expensive armamentarium will be so much junk within two years time.

No one who has not done at least fifty cases should venture an opinion on this rather involved subject. If anyone believes it to be a minor operation, let him hold his peace until he has done fifty cases.

It is a difficult and dangerous operation and regardless of what salesmen for instrument houses may say, it cannot be mastered by the occasional cystoscopist. As I see it now, about fifty per cent of the benign prostatic obstructions will be amenable to this method. All of the carcinomas of the prostate should be done by this closed method.

What seems to be the advantages to this method?

1. The idea of doing an operation such as this, without cutting, appeals strongly to the patient.

2. There really is a shortening of the time of hospitalization and the period of disability.

3. The results are brilliant in many cases.

4. The results are said to be permanent.

5. It is believed cases can be done by this method that would not stand open operation.

On the other hand, what are the dangers and contraindications?

1. It really takes longer to do this operation properly than to do an open operation. The time factor may be of great importance in certain cases.

2. It is really against all surgical principles to operate in an infected field without adequate drainage.

3. There is no way of tying arteries that may be severed. One must depend upon the uncertainty of coagulation to control hemorrhage.

4. There is grave danger from delayed hemorrhage. The patients must not be dismissed from the hospital too soon.

5. So far adequately reported series of cases indicate the operative mortality is not better than the best in the surgical series.

6. It has not been yet proven the results are permanent.

McCarthy says the prostate is at the cross road but I believe it is the urologists who are at the cross road and the fog is dense.

Tuberculosis in Tennessee

E. L. Bishop and H. C. Stewart, Nashville, Tennessee (Journal A.M.A., July 30, 1932), call attention to the fact that the Tennessee program of control of tuberculosis as an activity of the state government had its beginning in 1927. This program has been essentially one of field activities, and during the first four years since its inauguration 1,794 clinics have been held, 28,131 examinations made and 5,243 positive cases of tuberculosis found and brought under the active direction of personal physicians. Special field studies of tuberculosis have been in progress during the past two and one-half years. Some of the observations in these studies are presented briefly to indicate (1) the importance of household contact in the spread of tuberculosis and (2) the importance of chronic fibroid cases in the spread of tuberculous infection in this state. The logical means of approach in the control of tuberculosis in Tennessee, in the light of information now at hand, would seem to center around the breaking of the chain of long-continued contact between patients with fibroid and other types of tuberculosis with their household associates. Eventually this would mean the establishment of hospitals or retreats for the care of the patient who is spreading tuberculous infection among members of the family and friends.

LETTERS FROM A KANSAS DOCTOR TO HIS SON

John A. Dillon, M.D.

Larned, Kansas

My dear Boy:

Glad to hear you are launched out in your summer school work and enjoying it. Am more than pleased that you decided upon this rather than remain idly at home this summer. Up until this year it was possible to get a job even if a position was out of the question. Now the jobs are also all taken. Everything looks gloomy and the farmer on whom we depend in Kansas is about ready to take the count. About the only evidence of optimism and prosperity I have seen is when visiting you boys at the university. There the cheery atmosphere of affluence prevails and the spirit of youth seems not to feel the effect of three-cent hogs and six-cent eggs. Of course comparatively few pigs and chickens are raised about the campus. In fact I gather about the only thing that is raised is a loud protest when the check from home fails to get in on time.

The great political conventions are over and the platforms have been duly published in the papers. I have not read one of these creations for a good many years as they are all about the same. I am told that the brand of inspiration now used by the "committee on platform" is more potent than that of former years and that the protestations of patriotism and economy are stronger than ever. I also suspect that the same gallery audeince was used in both conventions at so much per head. At any rate the paramount issue seemed to be liquor. To me the whole thing seems to be a gesture of protest at the foreign racketeers and their official supporters in the cities. I am not a crank on the subject but the assertion that people are better off with liquor is too silly to argue. Not that a glass of good beer will hurt anyone and if this and this only could be legally manufactured we would all say "Amen." I have noted the liquor situation from many angles; from the old saloon days to the present high power home groups where all pass out before midnight,

mother and daughter included. It was bad enough when men met at the bar, drank for hours, argued politics, leaned on each other's shoulders and tearfully told what a "h—l of a fine wife they had—fill 'em up again." But now we have the mixed parties with attendant and greater evils. It is next to impossible after taking a few drinks of the present panther juice for a man to distinguish his wife of 180 pounds displacement from his neighbor's who weighs one hundred twenty and is a decided blond. The young lady of high ideals who has been carelessly dragged out on the porch after her passing is apt to come out of it with an awful headache and a greater heartache. The great trouble with liquor is it makes people spend money they cannot afford and do things that cause regret and shame afterwards.

Your mother tells me that you registered for the primaries when you were home but she did not know to which great party you pledged allegiance. Of course if you inherited stronger from the maternal side you will follow the teachings of Jackson, Cleveland and Wilson. If the paternal predominates you will lean to Lincoln, Roosevelt and Coolidge. If you have been a close observer you have noticed that politics in our home have been touched on at rare intervals. The reason for this is I tried for several years to convince your mother of the uselessness of the Democratic party and she, Southern by birth and sentiment, tried to impress me with the logic of the statement of the Arkansawyer who said he was thirty years old before he knew that "dam Republican" was two words. So after many heated discussions we agreed to disagree. However, this genial understanding does not prevent us killing each other's vote every four years. You have also noted that I played fair in the game and have never suggested in any way that you should ally yourself with the party of your father. Frankly I can see no difference between the two great parties. There used to be issues that appeared important and outstanding. But now that the Republican party is mostly wet and the Democratic all wet, the last difference has vanished. Tariff and free trade campaigns which prompted me to march with a greasy torch and a Roman helmet along side two or three hundred other morons has gone the way of free silver, imperialism and "he kept us out of war."

It is possible that some party spell binder may in the coming campaign be able to get up a parade and enlist you and other youthful voters into its cheering ranks. I cannot conceive of such a thing but you know what Barnum said. Nevertheless I urge you to study the questions of the day for sometime there will be a demand again for brains at Washington. Of late years it seems to the average voter as though the opposite were true. I am carried back in memory to the political times of my youth—"Them were the days." How we shouldered our torches and wore caps and regalia emblematic of our party! Quite a number of imbeciles and renegades were also enrolled under the banner of the opposite party and carried on as lustily as did we of the intelligentsia. In my youthful fervor I could not understand why anyone should not crave a full dinner pail as our party promised. I was also puzzled to learn that some people were against a high protective tariff and were in favor of admitting spaghetti and Egyptian mummies into this country free. I have had many an acrimonious debate with a free trade zealot trying to convince him how foolish it was to ruin our mummy industry which was struggling for its very existence. Since that time when paying $12.00 for a pair of shoes I have modified my views on the tariff.

The young people took much more interest in politics than do the youth of today. We had no autos, no radios, no moving pictures to discuss so politics filled in very nicely for light conversation with a friend or for the more enjoyable pastime of insulting some one who took the opposite view. Even the ladies joined in the game with enthusiasm and a woman member of a Bryan club wearing a jaunty cap looked with disdain on the lady of the McKinley club who also wore a jaunty cap plainly adorned with the party slogan. There was no question

in the minds of these ladies but that the country would perish from the earth should the opposite candidate be elected. And they were willing to back up this belief with argument, taunt and finger nails if necessary.

McKinley and Bryan are gone. The ladies have passed from the sinuous twenties through the buxom thirties and are now in the grandmotherly fifties and sixties. They have long since forgotten the free and unlimited coinage of silver and the full dinner pail. But strangest of all the country has gone on steadily only taking a few months' rest every four years when the saving process is gone through, and I predict it will still go on in spite of the colicky dissensions of politicians either Democratic or Republican. And while Old Glory may hang in wilted disgust at times these times will be infrequent. More often she will ripple proudly in the breeze; proud of the continent we call the United States of America; proud of the great institutions of learning; but most of all proud of the blatant, inconsistent, radical, illogical, irresponsible individual we call the American citizen.

Love,

DAD.

P. S. Your brother is home and between swimming, joy riding, playing tennis and looking for a job, he is fairly busy. Some day he is going to be offered work and it will be very embarrassing for him.

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Treatment of Agranulocytic Angina With Calcium Gluconate

R. A. Hare and J. H. Childrey, Santa Barbara, California, (Journal A.M.A., June 25, 1932), report a fatal case of agranulocytic angina which was interesting because the patient was an allergic individual, and because an improvement in the blood picture was noted following the administration of calcium gluconate. Of interest also were calcified deposits on the frontal bones, an exostosis of the hard palate and calcium-like deposits in the sloughs from the mouth, all of which suggested disturbance of the calcium metabolism. The appearance in the blood of granulocytes on the fifth day following the administration of calcium gluconate suggests that this agent may be of therapeutic value. Its use was suggested by the work of Tunnicliff, who has demonstrated, following its administration to rabbits and to a man, an increased phagocytosis by leugocytes in the blood.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of
The Kansas Tuberculosis and Health Association

Old Tuberculin discovered by Robert Koch in 1890 is a mixture of the bouillon and all metabolic products of the tubercle bacilli grown on it. Greater precision of the tuberculin test is highly desirable and for this a more specific and less variable testing substance is necessary. The chemistry of the tubercle bacillus has for some years been studied by investigators selected by the Research Committee of the National Tuberculosis Association, of which William Charles White is chairman. One of its results has been the isolation of a protein, which is designated as *MA100*. This substance causes the typical skin reaction in persons infected with tubercle bacilli. To test the reliability and practicability of it a study was carried on co-operatively by a number of workers. An analysis of the results is reported by Mariette and Fenger in the March, 1932, American Review of Tuberculosis.

A NEW TUBERCULIN

MA100 is obtained from different types of tubercle bacilli and the timothy-grass bacilli. The protein is identical with the original tuberculo-protein isolated by Seibert. The bacilli are grown on Long's medium, a synthetic medium of fixed-standard composition, which is protein-free before culture. After growth the bacilli are removed by filtration and the protein of the medium is precipitated at a given isoelectric point by glacial acetic acid. Thus the identical substances are constantly brought down and these are not subjected to any denaturing process with heat or chemicals. The diluent was normal saline solution. Thus the testing substances contain no phenol or glycerine.

Four types of acid-fast bacilli were used, namely, the human, the bovine, and avian types of tubercle bacillus and the timothy-grass bacillus. The corresponding proteins obtained have been designated as *MA100 Human, MA100 Bovine, MA100 Avian, and MA100 Timothy.* The origin and virulence of each of the

strains of bacilli from which the protein substances were derived, is known. The O. T. used for comparison also is of known derivation and sensitivity. Therefore, the reactions obtained can be safely compared and checked.

Old Tuberculin, as it is now marketed, is standardized on the basis of the minimum dose required to kill a tuberculous guinea pig. It has recently been shown, however, that O. T. contains a polysaccharide which is equally as lethal for tuberculous guinea pigs as is the acid-fast bacillary protein, but it produces no reaction when injected into the skin of tuberculous animals. Thus, standardizing tuberculin on the basis of the minimal lethal dose tells us nothing about its skin-testing potency. As a consequence, O. T. is known to differ as much as 400 per cent in that respect.

Procedure

For this study, the dosage of O. T. was established at 0.01 mgm. The MA100 human protein was diluted with normal saline solution to give the same skin reaction as that obtained with the established dose of O. T. This proved to be 0.000,5 mgm. If the skin reactions to these doses were negative at the end of 48 hours, the test was repeated with double the dose. The amount of MA100 of the several types necessary to produce a reaction comparable with that of the established O. T. was found to vary so that the following dosages were finally determined.

Tuberculin O. T.	0.01	mgm.
MA100 Human	0.0005	mgm.
MA100 Bovine	0.0001	mgm.
MA100 Avian	0.001	mgm.
MA100 Timothy	0.01	mgm.

Questions Investigated

Answers to five questions were sought.

1: *Is the MA100 human protein more sensitive and more selective than O. T.?*

A total of 2,328 individuals were tested simultaneously with O. T. and MA100 human. The group included general hospital patients, both adults and children, sanatorium employees ranging in age from 17 to 73, a general population group composed of nurses in general hospitals, medical students and school children in a rural section. The results are presented in detailed tables in the original article. It was found that more individuals reacted to the MA100 human protein than to O. T. and this was true of known cases of tuberculosis as well as in the general population group.

2: *Are the doses recommended safe or are dangerous reactions encountered?*

The reactions to the initial dose of O. T. and to the different MA100 proteins were compared. Reactions were recorded as plus one to four. Necrosis is associated only with a four-plus reaction and of these there were none in the series. There were no constitutional reactions in any of the tests but there were seven reactions which might be called disagreeable in that they were accompanied by lymphangitis or enlarged, painful axillary lymph nodes or superficial vesicles, which were not followed by or associated with necrosis. None of the reactions might be called dangerous. Two of the seven disagreeable reactions occurred with O. T. One with MA100 human protein, one with MA100 bovine protein, two with MA100 avian and one with MA100 timothy.

3: *Are the doses recommended and used in this study large enough or should they be increased?*

Of 540 clinically tuberculous individuals 91.1 per cent reacted to the established doses MA100 human protein. In another group of 314 clinically tuberculous individuals 92 per cent reacted to both the initial and repeat doses of MA100 human protein. The 8 per cent of this group who failed to react either died or left the sanatorium before the test could be repeated.

By means of another series of tests, an attempt was made to determine whether or not a higher dose would yield a higher percentage of positive reactors. The authors conclude that the doses of the MA100 human protein as recommended (0.0005 mgm. and 0.001 mgm.) are apparently large enough and, therefore, need not be increased.

4: *Are the various MA100 proteins specific in that they will pick up only infections by the bacillus from which they are isolated?*

An analysis of the percentages of positive reactions in several thousand indi-

viduals tested with O. T. and the different MA100 proteins justified the authors in concluding that the bovine, avian and timothy MA100 proteins are not specific. They question whether O. T. in high concentration of a mgm. or more is specific. In small doses of O. T. and MA100 human protein, the reaction is apparently specific.

5: *Is there a protein substance common to all acid-fast bacilli?*

Comparison of reactions from O. T. and the several MA100 proteins lead the authors to conclude that there is apparently a protein substance common to all acid-fast bacilli, which if given in large enough doses will call forth a typical tuberculin reaction in just as large a proportion of the people as does O. T.

Conclusions

1. The MA100 human protein is as sensitive and as selective as O. T., and probably more so.
2. The initial and repeat doses recommended for the MA100 human protein are safe in that dangerous reactions are not encountered.
3. The initial and repeat doses recommended for the MA100 human protein are large enough to pick out the majority of tuberculous individuals and apparently do not need to be increased.
4. The MA100 proteins are apparently not specific in large doses at least.
5. There is apparently a protein substance common to all acid-fast bacilli, which, if given in large enough doses, will elicit the same type of reaction as that obtained from Old Tuberculin.
6. As the MA100 protein represents a substance in a purified form which can always be reproduced at the same isoelectric point and which can be weighed out in milligram doses, so that the exact milligram content of the solution is known, it is a better testing substance than Old Tuberculin.

Among the workers mentioned by the authors as participators in the study are:

Elmer H. Funk
F. M. Huntoon
H. J. White
J. Aronson
Fred Carter
Everett K. Geer
Harold Diehl
Peter Masucci
Kenneth L. McAlpine
Esmond R. Long
Professor H. Valée
L. Van Es
Edward R. Baldwin
M. Dorset
D. R. Hastings
Florence Seibert
Parke, Davis & Co.
H. K. Mulford Laboratories
M. I. Smith
W. H. Morriss
John Reichel
National Institute of Health

The present Status of the Skin Reaction in Tuberculous and Non-tuberculous Subjects, E. S. Mariette and E. P. K. Fenger, in collaboration with Elmer H. Funk, F. M. Huntoon and H. J. White. Am. Rev. of Tuberc., March 1932.

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THE PHYSCIAN'S LIBRARY

Bing, The Story of a Tramp Dog, by Thomas C. Hinkle, author of Tawny, Black Storm, Shag and Tornado Boy. William Morrow and Company, 386 Fourth Avenue, New York City. Price $1.75.

Bing, a white and silver collie, a tramp dog, the son of a tramp mother, finally found a friend in Joe Harlan who gave him a home. A killer dog appeared in the peaceful Kansas valley (the story is laid in Kansas) and hogs and sheep were mysteriously slaughtered. Naturally, suspicion fell on Bing, for he had a reputation as a fighter. Bing and Joe fought a lonely fight for vindication, and in the climax it was Bing who killed the killer.

Unsual interest is attached to this story for two reasons: first, the author is a resident of Kansas, living at Carbondale, and his story is of Kansas, and second, the author is a physician and a member of the Shawnee County and Kansas Medical Societies.—E.G.B.

Medical Clinics of North America: (Issued serially, one number every other month.) Volume 15, No. 5. (New York Number—March, 1932). Octavo of 340 pages with 61 illustrations. Per Clinic Year, July, 1931, to May, 1932. Paper, $12.00; Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1932.

This volume of the Clinics is from New York and includes nearly 400 pages of clinical material on a large variety of medical subjects. Mosenthal writes the leading article on "The Clinical Aspects of Bright's Disease," discussing particularly the chronic diffuse glomerular nephritis. There are other excellent papers on Epidemic Poliomyelitis, Pulmonary Edema in the Course of Lobar Pneumonia, Pyloric and Duodenal Stenosis, A Series of Staff Conferences of the Neuropsychiatric Division of the New York

Post Graduate Medicine School, Rheumatic Fever in Childhood, Congenital Heart Disease, Radiology of the Heart, all contributed by leading physicians in New York. There are several other fine article in this volume.—W.C.M.

Medical Clinics of North America. (Issued serially, one number every other month). Volume 15, No. 6. (Mayo Clinic Number—May, 1932) Index Number. Octavo of 239 pages with 31 illustrations. Per clinic year, July, 1931, to May, 1932. Paper, $12.00; Cloth, $16.00 net. Philadelphia and London. W. B. Saunders Company, 1932.

This issue is published from the Mayo Clinic and includes 22 articles from leaders of the various departments of the Rochester Institution. The list of titles includes Chronic Ulcerative Colitis, Progressive Lipodystrophy, Ascites, Fish Liver in the Treatment of Pernicious Anemia, Atypical Exophthalmic Goiter, Psoriasis, Postural Sciatica, Uremia, Jaundice, Colonic Obstruction, Acute Cardiac Infarction, Myocardial Rupture, and other subjects. One of the most practical articles in this whole volume is one by Alvarez on "Patients who are Incapacitated by a little Indgestion." This volume is particularly valuable as are all of this series because of the very practical nature of the majority of these papers. They are all clinical reports rather than simple scientific treatises. They are much more practical to the general practitioner than are many of our medical journals whose articles are so often highly technical that they are difficult for practical application.—W.C.M.

Medical Clinics of North America. (Issued serially, one number every other month.) Volume 16, Number 1. (Philadelphia Number—July, 1932). Octavo of 290 pages with 75 illustrations. Per Clinic year, July, 1932, to May, 1933. Paper, $12.00; Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1932.

This issue of the Medical Clinics appears from Philadelphia where 26 physicians and their co-workers contribute clinical material. This issue includes a list of titles dealing with Schizophrenia, Prevention of Heart Disease, Injury to the Spinal Cord, Healing of Gastric Ulcer, Prevention of Coronary Occlusion, Pernicious Anemia, Masked Hyperthyroidism, Purpura Hemorrhagica, Infantile Scurvy, Obstetrical Paralysis, Management of Ascites, Congenital Heart Disease, Thyroid Heart Disease, and many other very practical papers, for the general practitioner.—W.C.M.

Practical Treatment of Skin Diseases by Edward Ahlswede, M.D., of New York City and Hamburg. Formerly Assistant Physician, University Skin Department, Direction of Prof. Unna Eppendorf Hospital, Hamburg. Foreword by Howard Fox, M.D., and Prof. P. G. Unna. Large Octavo, Cloth, 798 pages, 77 illustrations. P. D. Hoeber, Inc., Publishers, New York City. Price $12.00.

Compiling a manual of treatment of skin diseases represents an immense amount of work. Ahlswede has given us a book that must have necessitated years to collect the material.

The arrangement of the book is especially simple, and lends itself to rapid reference. Each disease is listed alphabetically. A concise description of signs and symptoms is given, then a short differential diagnosis of the more important diseases, and a synopsis of treatment is set down before the detailed therapy is outlined.

The thoroughness with which the subject matter is treated makes this a valuable book for both general practitioner and dermatologist.—E.H.D.

The Technique of the Non-Padded Plaster Cast, by Fritz Schnek, M.D., First Assistant at the Accident Insurance Hospital in Vienna, with a preface by Lorenz Böhler, M.D., Director of the Accident Insurance Hospital in Vienna. Authorized English Translation by Douglas D. Toffelmier, M.D., Oakland, California, with 169 illustrations, 1932. Price, Cloth, $5.00—postfree. Wilhelm Maudrich, Medical Bookseller and Publisher, Vienna IX Spitalgasse 1B, Austria.

This translation of Dr. Fritz Schnek's work by Dr. Douglas D. Toffelmier, on the technique of the non-padded plaster cast is a detailed description that is most instructive.

The proper technique in the application of casts is none too well known by the average doctor, and the use of the non-padded cast, far less known. The precautions in technique are emphasized in connection with various types of fractures. The value of immobilization with plaster in the treatment of wounds is described.

The non-padded plaster technique is that used in Dr. Böhler's Clinic in Vienna—a clinic well known for the efficient manner in which fractures are handled. Dr. Böhler states: "the treatment of any fracture has two constant requirements—good reduction and uninterrupted fixation until bony union takes place. . . . In the majority of cases the non-padded plaster cast affords the best means of maintaining the fragments in good position."—M.B.M.

THE JOURNAL
of the
Kansas Medical Society

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EDITORIAL

MAGGOTS IN THE TREATMENT OF CHRONIC BONE INFECTIONS

The method of treating chronic osteomyelitis with live maggots is of comparatively recent development, but unusual results have been reported by many using such treatment. Medical literature, however, as early as the 16th century carries references to worms and disease.[1] Zachman in 1704 wrote of the origin of maggots in wounds, while Baron D. J. Larrey noted the beneficial effects of maggots in infected wounds of soldiers.

The maggot treatment of chronic bone conditions was revived by the late Dr. William S. Baer who served in the American Expeditionary Forces. Dr. Baer observed many soldiers who had suffered compound fractures and lain on the battlefields for many days when brought to the hospital, had no temperature or evidence of sepsis. When the debris was removed from the wounds, the tissue was found to be healthy. Animal experimentation followed, with eventually the application of the maggot treatment to certain chronic conditions.

Presumably, maggots were effective because of their mechanical action; they were supposed to destroy and digest bacteria, as well as dead tissue, thus rendering such matters inert. By their motion, they stimulated a rapid outpouring of the blood serum, which of itself, is healing, with an increase of the P_H of the wound. In the early stages of treatment it was noted the maggots would live until replaced, but after the fifth application would live but a short time. Death occurred because the P_H of the wound had increased and some substance was produced through contact of the live maggots with the tissues which so increased its virulency that the maggots were killed by its potency. For lack of a better name, this substance has been designated as a "therapeutic active principle."

Further investigation, however, has shown the mechanical action of maggots was not alone responsible for the excellent results obtained, but an additional substance was responsible for affecting cures. Livingston and French[2] in a recent report state this substance is contained within the body of the maggots and was secured by grinding live maggots in sterile solution and filtering the product through coarse and fine Berkfeld filters. Due care was taken to insure sterility and solid substances were secured which to date are of unknown composition. Analyses are now in progress to prove the nature of these healing substances. The vaccine used by these authors was an autogenous or polyvalent suspension of killed organisms, counted and fortified by the active principle and tested for sterility. It was determined a vaccine of killed organisms in saline solution without the active principle fortification was not sufficient.

Report is made of a series of 100 cases

1. J.M.S.N.J., February, 1932.

2. J.A.M.A., April 2, 1932.

of chronic osteomyelitis, infected wounds and compound fractures which have been treated with the active principle and vaccine, with or without the use of live maggots, with 88 per cent of the cases successfully healed. In three cases of chronic discharging middle ear disease, the auditory canal was packed daily with cotton pledgets of the active principle and inoculated every fourth day with the autogenous vaccine. The discharge disappeared after two weeks' treatment. At the present time, cases of chronic leg ulcers, and sinus and mastoid infections are under treatment with the active principle or vaccine, but not using live maggots.

In various medical centers, both large and small, the maggot treatment is being used successfully in the treatment of chronic bone infections, which previously had not responded to other types of treatment. From the evidence obtained, medical science has again made tremendous strides in the treatment of another type of chronic disease.

A FULL-TIME SECRETARY

At the annual meeting last spring, a resolution was presented empowering the Council "to arrange for the reorganization of this Society and to provide for the employment of a full-time lay executive secretary." Further provision was made the Council "shall complete its work and shall inaugurate the new program which it adopts not later than the first day of November, 1932." Following discussion of the question at both meetings of the House of Delegates, and on motion, a committee was appointed to study the advisability of the society employing a full-time secretary, report to be made at a called meeting of the Council in Kansas City, without expense to the society, at the time of the fall clinics.

The plan as proposed was not in any way a reflection on the ability or the work of the officers of the society. Naturally, the officer of any organization who is employed full-time, devotes his entire time to the work of the organization he represents. Consequently, a full-time secretary would give his entire time in the interest of the organized medical profession.

According to information available in the Journal office, 14 state medical societies employ a full-time secretary. Eight of these, namely, Colorado, Indiana, Iowa, Maryland, Ohio, Oregon, West Virginia and Wisconsin employ a lay secretary; California, Maine, Massachusetts, Minnesota, Missouri and Texas employ a full-time secretary who is a doctor of medicine. The salaries received by lay secretaries vary from $3,600 to $8,000, with an average of $5,770; the minimum salary of the medical secretary is reported as $3,000, maximum $7,245, the average being $4,620.

Members of the Ohio society pay annual dues of $5.00, but the membership totals more than 5,500; Indiana dues are the same as our own society, while the other twelve have annual dues ranging from eight to twenty-two dollars. The societies of Maine and Oregon, each have approximately 700 members with annual dues of $8.00 and $20.00, respectively; the Colorado and West Virginia societies, each have more than 1,100 members with annual dues of $10.00. Maryland has approximately 1,500 members; the total membership of the remaining nine societies ranging from 2,300 to more than 7,000. Only two societies report a sufficient income at the time of employment of the full-time secretary that it was not necessary to raise the dues. With one exception, the editor of the Journal, regardless of whether or not a lay secretary is employed, is a graduate physician.

The full-time secretary, if employed, in reality would be the business manager of the society. The Council and regular com-

mittees would lose none of their power, and undoubtedly would be more active in society affairs. It is not believed the full-time secretary could arrange more attractive programs for the annual meeting, but probably could stimulate the attendance for he would make personal contact with all of the component societies at their regular meetings. Prior to the meeting of the legislature, he could make a tour of the state, become personally acquainted with each member of the House and Senate and present for their consideration the attitude of scientific medicine. It would be possible for him to be in daily and constant attendance at the legislative sessions and, through the legislative committee, keep the members advised as to contemplated medical legislation. He would, in addition, have many other duties.

The executive secretary of the West Virginia society reports as follows: "There were 950 members when dues were raised and a secretary employed; about 50 dropped out. Since then membership has gradually increased to 1,150, or 75 per cent of eligible physicians in the state." The attitude of Oregon is expressed: "It was necessary for our society to raise its dues because at the time the plan of employing a full-time executive secretary was adopted in 1926 the membership consisted of only 500 members paying $5.00 per year. It might be of interest to you that since the employment of our full-time executive secretary the membership has increased to approximately 700. In other words, the attitude of the members in the long run is determined not by the amount of the annual dues but with the results obtained by the society with the money it receives. Of course there are always objections by members to raising dues but the objections diminish as the beneficial results of the full-time executive secretary are demonstrated."

Nebraska advises: "We have an organization that up to the present at least, most of us like better than a full-time secretary. A plan for a full-time secretary has been voted down almost unanimously three times recently. We have four committees in particular that we believe do better work than any one full-time man could do. We are also fortunate in the men who are at the heads of these committees especially, but the members are all active and like the work. These committees have expense accounts and in two cases small salaries. In other words most of us believe that it is much better to have a large group of men working for the good of medicine, than to have a one-man organization which is liable to happen with a full-time secretary." Illinois does not employ a full-time secretary, their attitude being expressed: "The Illinois State Medical Society does not believe that a full-time executive or lay secretary can assume the viewpoint of a medically trained secretary. Our work is so divided that we do not need a full-time secretary or business manager, because we conduct our legislative, medico-legal, educational and editorial work by different individuals, believing it impossible to get one executive official who could do that work so well, alone. We have approximately 7,500 members in our society."

The attitude of the Michigan society is "that it would be a grave error to employ a non-medical secretary. If any change is made, secure an M.D., and pay him well. You will profit more."

E. A. Meyerding, M.D., of Minnesota, replies: "A recent survey of a state with a population of a little over two and one-half millions showed from the state income tax returns that the income of the profession in that state was seventeen and one-half million dollars. Members of the state medical association pay $15.00

dues, or a total sum of approximately $30,000. This is .0017 per cent that is paid to protect this enormous business. A study will show there is probably no business, profession or employee group who pay so little to safeguard their interests."

The American College of Physicians and the Southern Medical Association employ lay secretaries; the secretary of the American Medical Association is a graduate doctor of medicine.

It would appear there are adequate reasons for the employment of a full-time secretary, although serious consideration must be given to the cost. On account of business conditions, it would undoubtedly be unwise at the present time to increase the dues which might result in a loss of membership. If a full-time secretary is employed, regardless of whether he is a lay executive or a member of our profession, he must be tactful; accept with a smile the criticisms, just or unjust; keep absolutely free from any cliques and not mix in medical politics in any way.

The recommendations of the committee will be awaited with interest by all members of the society.

Since the foregoing was written additional information has been received. New Jersey employs a full-time secretary (graduate in medicine) at $8,000 per year, who is also editor of the Journal. Georgia employs a full-time lay secretary but the amount of his salary was not stated.

EDITORIAL COMMENT

Note the Journal advertisers listed in the advertising section. Write for literature and free samples.

The Committee on Foods has recently announced the acceptance of Cocomalt, manufactured by the R. B. Davis Company. Claim is made that one ounce of Cocomalt, which is recommended for each glass of beverage, contains from 40 to 45 vitamin D units (Steenbock) and richly contributes to the vitamin D dietary needs of the body.

Several months ago, announcement was made that endemic typhus fever which had been recognized for several years in the United States, had been shown to be transmitted by fleas. Additional studies indicate the rat flea is the transmitting agent. The work has been proven by laboratory experiments and by field studies, all of which have been conducted by the United States Public Health Service. There seems to be ample evidence endemic typhus fever is spread from rat to rat by the rat flea, and from rat to man by the same agency.

Deficiency in the payment of first-class postage on specimens sent to the state board of health laboratory at Topeka, may cause delay in receipt of the reports. Because of the great increase in the number of packages which do not carry sufficient postage, the director of the laboratory, hereafter, will not accept such packages and consequently they will be returned to the postoffice for collection of due postage from the sender. In the last week of July, postage due on specimens received at the laboratory amounted to more than one dollar per day.

THE SPECIAL CARBOHYDRATE FOOD WHICH COMBATS INTESTINAL PUTREFACTION

LACTO-DEXTRIN
(Lactose 73% — dextrine 25%)
Provides the right soil for the growth of a normal aciduric flora — Nature's method — more effective — more lasting.
Samples and literature on request.
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THE LABORATORY

Edited by

J. L. LATTIMORE, M.D., Topeka

In this short discussion I shall endeavor to present some of the more salient points in regard to allergy, anaphylaxis, protein sensitization, serum sickness and specific hypersensitiveness, as these terms are interchangeable and are used by most of us to indicate the same or similar condition.

A great number of individuals are sensitive to some foreign protein, many to such a slight degree that we pay little heed; others to such a degree they suffer from hives, hay-fever, asthma, eczema and associated conditions due to the action of some foreign protein. This protein may at times produce death in a very short time, even one minute, as in the case of a wasp sting. There are so many manifestations that even the men who are doing investigative work in this specialty are unable to arrive at a definite classification.

However, it is not the object of the writer to go into all the details covering the above subjects, neither time nor space permit such. I shall bring to your attention a part of the subject, allergy, which at the present time concerns a great number of physicians in Kansas.

The diagnosis and treatment of hay-fever has a very sound theoretical base and as a rule, failure to obtain good results is caused by failure in either the correct diagnosis or the proper treatment. In hay-fever, there must be some offending pollen or pollens, with which the patient comes in contact. I believe a thorough history often assists in at least limiting the number of offending pollens. As a rule, our pollens in Kansas are in four general groups. The first group (seasonal) is the pollen from trees and these pollinate in April and May, some years in the latter part of March. The second group is composed of those plants that pollinate in June and July and usually the following plants are the cause of hay-fever occurring at that time of the year: red sorrel, blue grass, orchard grass, lambs quarter, timothy, red top, sudan grass, English plantain, Russian thistle, spiny amaranth and western water hemp. The third group overlaps the last group to a certain extent, for the last five and lambs quarter pollinate in August, as well as the following: pigweed, Palmers amaranth, ragweed and cocklebur. The fourth group causes little trouble and is composed of the cedars and sages.

If the physician will take ample time to go over the entire history of the patient, onset, duration and symptoms, it is evident he can limit the possible offending pollen to a comparative small group. There are exceptions to this rule as there are flower pollens which cause some trouble, but these are uncommon. It would appear silly to test a patient for ragweed when the patient gives a history of onset in June; likewise to test a patient for tree pollens, when the history would plainly indicate that their trouble starts in August. A fairly common error in making the diagnosis is the assumption that when one positive is obtained, that is all that is necessary and to proceed with treatment. I believe it a good policy to test for all possible offending pollens in that season. Another source of error is the type of skin test. In my own experience, I find the dried pollens are not as satisfactory as the liquid suspensions. The first test should always be the scratch test, as in vaccination for smallpox. If the patient gives a negative, the physician then should resort to the intradermal test. Some very unhappy results have occurred, however, where intradermal tests have been used without first the skin test.

After definitely determining the offending pollens, the question of treatment comes and this always brings up the question of from whom shall one purchase the extract. I believe the majority of the standard houses will deliver a good, potent extract. My early failures were the result of impotent extracts. Certainly the theory of treatment of hay-fever is sound. Here we have a pollen, an offending protein that the patient is unable to stand. At first our treatment starts with a small dose of this offending material, followed by a slightly larger

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dose, then a larger dose and so on, until the patient is receiving as much pollen in a given dose as he would obtain from the air. Most houses have established a rule that it requires about fifteen doses of pollen of increasing strengths to equal the amount the patient would obtain from the air. However, there is an individual factor involved. After the extract is received and properly diluted, I would first resort to an intradermal injection of a very weak dilution, say a drop of a 1:100,000. If no local reaction is obtained, you may try a drop of the 1:10,000. In some cases the patient may be so sensitive that even higher dilutions will be required. After determining the dosage with which you will start, set up a definite schedule for the patient. I would never attempt treatment unless at least fifteen days will elapse before the onset of symptoms. Some workers, however, attempt treatment with two daily injections. I consider this unsafe for the physician; better, to make injections every other day, which would require about thirty days to develop a tolerance. Probably the most important point in treatment is: never permit the patient to leave the office immediately. Make a hard and fast rule they shall remain at least thirty minutes, otherwise you may make a rush call to relieve the patient and when you arrive, learn he has just died. Personally, I resort to large doses of adrenalin when the patient shows a definite reaction. You will not mistake the reaction: free perspiration, hard breathing, fast pulse, marked hives. I would never wait for the stage of hives to develop for when the patient complains of hot-flashes, begins to perspire excessively and shows some respiratory symptoms, administer adrenalin at once.

In presenting this article, I have tried to stress the important points for the physician in diagnosing and treating a case of hay-fever.

RECENT MEDICAL LITERATURE

Edited by
WILLIAM C. MENNINGER, M.D., Topeka

AURICULAR FIBRILLATION

Weisman presents a study of twenty-eight cases of auricular fibrillation in which the patients were treated with quinidine; four did not continue treatment, so that only twenty-four were treated satisfactorily by the ambulatory method. In 17 of the 24 cases, normal rhythm was restored. Tincture of digitalis is always given first, preferably for a few days. If the heart is decompensated the patient is well digitalized until there is evidence the heart is fully compensated, or nearly so. Quinidine is then given in small doses. The first day 0.1 gm. is given; the following day 0.2 gm., and the third day 0.4 gm. The patient is given 0.4 gm. per day for five days. Every two hours 0.1 gm is taken. At this point the dose of digitalis may be reduced or discontinued, depending on the degree of cardiac compensation and the heart rate. On the seventh day the dose of quinidine is increased to 1 gm per day, 5 grains (0.324) every two hours until three doses have been given. After a few days, if necessary, the dose is increased to 20 grains (1.3 gm.), 5 grains being given every two hours until four doses have been administered; then the dosage is increased to 30 grains (195 gm.), 10 grains (0.65 gm.) every two hours. As much as 40 grains (2.6 gm.) per day was given in 10 grain (0.65 gm.) doses at two hour intervals. As soon as the rhythm of the heart becomes regular the dose of quinidine is reduced, and a maintenance dose is established. This amount may be about 10 grains per day for several days, then 5 grains in single doses. Only two accidents occurred during the treatment: one death from coronary thrombosis and a case of hemiplegia. At the same time Levine, from a study of thirty-six experiments performed on cats, found that quinidine sulphate definitely inhibited the facility with which ventricular fibrillation could be produced by cardiac stimulation. It was also found that this effect could not be attributed to manipulation

of the heart and the resulting fatigue of the muscles or to the time consumed in the experiments. The author suggests these results offer a rational background for proper quinidine therapy as a method of preventing sudden death in those conditions in which ventricular fibrillation is prone to occur.

(Auricular Fibrillation: Ambulatory Treatment with Quinidine; S. A. Weisman, Archives of Internal Medicine, 49:727-735, and Effect of Quinidine Sulphate in Inhibiting Ventricular Fibrillation: An Experimental Study; Harold D. Levine, Archives of Internal Medicine, 49:808-816, May, 1932.)

CAUSES, CLASSIFICATIONS AND DIFFERENTIAL DIAGNOSIS OF ANEMIAS

The authors present a table showing the results of the most important examinations in the different types of anemia, together with a discussion of the fundamental causes of anemias and the differential diagnosis of clinical anemias. A theory of the etiology of pernicious anemia is advanced, and the following conclusions are drawn; first the term "secondary anemia" should be discarded as it is not sufficiently descriptive and anemias formerly grouped together under this term differ widely in etiology, symptomatology, blood findings, and in response to different types of therapy. An accurate diagnosis of the etiology is essential to the proper treatment of anemias. To facilitate this differential diagnosis, a table is presented in this report, which gives the more important laboratory and clinical findings with the chief therapeutic indications in twenty-eight of the more important conditions which may cause or be confused with anemia. A cause for anemia may exist without the development of actual anemia, since it is possible for blood regeneration to keep pace with blood destruction or with hemorrhage. There are only three fundamental causes of anemia: deficient formation of red cells or hemoglobin; excessive destruction of red cells or hemoglobin within the body, and loss of red cells and hemoglobin from the body. Clinical anemias should be studied with the object of determining what is the relative part played by each of these fundamental factors in any individual case.

(Causes, Classification and Differential Diagnosis of Anemias: Based on the Detailed Examination of Over Two Hundred Patients and a Study of the Literature; Osgood, Edwin E., & Haskins, Howard D., Annals of Internal Medicine: 5:1367-1376, May, 1932.)

PREGNANCY AND DIABETES

Bowen and Heilbrun present five cases of pregnancy and diabetes and also a review of the literature since insulin has come into common use. The question of the effect of pregnancy upon diabetes is still controversial, and the authors were particularly interested in analyzing case histories from this standpoint. Following each case presented, a comment follows on that particular case and the following summary is drawn: First that insulin as it is used today has markedly lowered the mortality rate of the pregnant diabetic woman and considerably enhanced the chances of preserving the life of the baby. Both of these improvements, are far from the obstetrical ideal. The greatest danger for both the mother and the child is acidosis and coma. There seems to be a great variability of tolerance and insulin requirement during both the pregnancy and the puerperium. The nature of this is without adequate explanation. The clinical evidence supports the view that pregnancy increases the severity of the diabetes, at least temporarily, in the majority of instances.

(Pregnancy and Diabetes, With a Report of 5 Cases and a Review of the Literature: Bowen, Byron D. & Heilbrun, Norman: The American Journal of the Medical Sciences: 183:803-811, June, 1932.)

CARDIAC MANIFESTATIONS OF HYPERTHYROIDISM

Andrus and McEachern following a review of the literature on this subject and experiments producing hyperthyroidism in animals conclude that the most accurate, and certainly the most optimistic attitude, to look upon the heart in hyperthyroidism as suffering from its own accelerated metabolism and from the load thrown upon it by the metabolism of the body as a whole. From both of these burdens it can happily be relieved by relief of the hyperthyroidism.

(The Cardiac Manifestations of Hyperthyroidism: Andrus, E. Cowles & McEachern, Donald; The American Journal of the Medical Sciences: 183:741-748, June, 1931.)

KANSAS MEDICAL SOCIETY

Proceedings of the 74th Annual Meeting —Concluded

JOINT MEETING OF COUNTY SECRETARIES AND COUNCIL

The Seventh Annual Meeting of the county secretaries and council was held in the front dining room of the Chamber of Commerce, 727 Minnesota Avenue, Kansas City, Kansas, on Tuesday, May 3, 1932 at 12:15 p. m. The following were present: P. S. Mitchell, Iola; Geo. W. Davis, Ottawa; Walter Stephenson, Norton; Mac. F. Cahal, Wichita; R. M. Price, Wellington; R. T. Nichols, Hiawatha; E. H. Johnson, Peabody; J. A. Milligan, Garnett; W. F. Bernstorf, Pratt; L. O. Nordstrom, Salina; A. M. Lohrentz, McPherson; Paul E. Conrad, Hiawatha; Leon Matassarin, Leavenworth; H. E. Robbins, Belleville; J. E. Henshall, Osborne; C. Omer West, Kansas City; E. C. Duncan, Fredonia; O. P. Davis, Topeka; J. T. Axtell, Newton; J. F. Gsell, Wichita; L. B. Spake, Kansas City; C. C. Stillman, Morganville; Alfred O'Donnell, Ellsworth; H. O. Hardesty, Jennings; Ivan B. Parker, Hill City; C. H. Ewing, Larned, and J. F. Hassig, Kansas City.

Brief talks of unusual interest concerning the advantages of a well conducted county society were made by the following: P. S. Mitchell, E. C. Duncan, Mr. Mac. F. Cahal, O. P. Davis, L. O. Nordstrom, C. O. West, and Walter Stephenson.

Meeting adjourned.

MEETING OF THE HOUSE OF DELEGATES

Thursday, May 5, 1932

The House of Delegates met in the Auxiliary Room, second floor, Soldiers and Sailors Memorial Building at 8:30 a. m. Meeting was called to order by the vice president, Dr. J. D. Colt, Sr., owing to the temporary absence of the president.

The following officers were elected:

President-elect, Dr. J. D. Colt, Sr., Manhattan; vice president, Dr. J. F. Gsell, Wichita; secretary, Dr. J. F. Hassig, Kansas City; treasurer, Dr. Geo. M. Gray, Kansas City.

Councilors:

First District, Dr. R. T. Nichols, Hiawatha; Fourth District, Dr. O. P. Davis, Topeka; Fifth District, Dr. J. T. Axtell, Newton; Sixth District, Dr. H. N. Tihen, Wichita; Ninth District, Dr. H. O. Hardesty, Jennings; Eleventh District, Dr. C. H. Ewing, Larned.

STANDING OF COUNCIL

Dist. Councilor	Term expires
1st—Dr. R. T. Nichols, Hiawatha	1933
2nd—Dr. L. B. Spake, Kansas City	1933
3rd—Dr. E. C. Duncan, Fredonia	1934
4th—Dr. O. P. Davis, Topeka	1935
5th—Dr. J. T. Axtell, Newton	1935
6th—Dr. H. N. Tihen, Wichita	1934
7th—Dr. C. C. Stillman, Morganville	1933
8th—Dr. Alfred O'Donnell, Ellsworth	1933
9th—Dr. H. O. Hardesty, Jennings	1935
10th—Dr. I. B. Parker, Hill City	1934
11th—Dr. C. H. Ewing, Larned	1935
12th—Dr. W. F. Fee, Meade	1934

Owing to the absence of Dr. Earle G. Brown at the House of Delegates meeting on May 3 the report of Committee on Medical History was not read until the second House of Delegates meeting on Thursday morning.

REPORT OF COMMITTEE ON MEDICAL HISTORY

House of Delegates, Kansas Medical Society:

In rendering a report at this time the committee would call attention to the fact that the album which contains photographs and short biographies of past presidents of the Kansas Medical Society has been kept up to date. We still hope to secure photographs of Dr. John Parsons, who was elected president in 1868 and Dr. H. K. Kennedy, who was elected president in 1875, but up to date have been unsuccessful in our efforts.

Mrs. W. E. McVey presented the Kansas Medical Society with the following volumes which were in Dr. McVey's library:

Transactions of the Kansas Medical Society, Volume one, 1866 to 1877, and Volume two, 1878 to 1888, inclusive and 1894-1900 inclusive.

Volumes one to ten inclusive of the Kansas Medical Journal from May 1889 to 1898.

These are valuable records and it is our recommendation the society should express its appreciation to Mrs. McVey through a letter from the secretay making fomal acknowledgment of the gift.

EARLE G. BROWN, M.D.

On motion regularly seconded and carried, the report was accepted and filed.

Dr. Earle G. Brown made a motion that the Secretary be instructed to write a letter to Mrs. W. E. McVey in appreciation of the records she presented to the Kansas Medical Society, which was regularly seconded and carried.

REPORT OF BUREAU OF PUBLIC RELATIONS

Financial statement of the Bureau of Public Relations of the Kansas Medical Society. Receipts and disbursements from May 1, 1931, to May 1, 1932.

RECEIPTS

Balance on hand May 1, 1931	$ 501.48
Sales and Subs. (Folks)	1,290.04
*Kansas Medical Society	1,827.60
Advertising for Folks	192.00
	$3,811.12
Accounts receivable	551.62
	$4,362.74

EXPENDITURES

Printing Folks	$1,163.40
Stock and stationery	405.00
Salaries and wages	1,333.00
Postage	356.74
Office rent	200.00
Electrotypes	197.68
Advertising	10.73
Drayage	4.25
Delivering Folks in Topeka	30.29
Stencils and filing trays	81.93
Table, desk and office supplies	68.00
	$3,851.02
Salary due Miss Carlson	120.00
Accounts payable	251.13
	$4,222.15
Balance	$ 140.59

*The original appropriation was $2,000.00 but $150.00 of this was used for six Chamber of Commerce memberships and $22.40 to defray railroad expenses of two of the Bureau Board members to meetings held in July and January. These items were paid by the Secretary or Treasurer.

L. G. Allen, M.D., Kansas City, Kansas; O .P. Davis, M.D., Topeka, Kansas; E. C. Duncan, M.D., Fredonia, Kansas; E. S. Edgerton, M.D., Wichita, Kansas; C. E. McCarty, M.D., Dodge City, Kansas; O. D. Walker, M.D., Salina, Kansas.

BUREAU REPORT

Folks magazine, an ideal medium for forming contact between the physician and layman, is only ten months old. In spite of a hard struggle the mailing list has reached the 5,967 mark with 22 delivered to newstands in hotels and drug stores, making the total distribution for May 5,989, as compared with 3,900 in January of this year.

With the added work that the magazine has made, it was necessary to employ additional help which increased our salary item. Office rent is $12.50 per month less because we have combined the two offices.

It is necessary for us to pay 2c postage on Folks in Topeka and in order to reduce this item we have secured the services of high school boys to deliver the magazines. By doing this we have managed to save $15.20 on our postage account to date.

The cost of printing Folks is considerably less, even with our increased circulation, because of the new contract made with our printer last March. His figure is much less than that quoted by other printing establishments in Topeka.

August	$153.00
September	110.00
October	194.75
November	167.40
December	142.00
January	142.00
February	129.75
March	124.50
April	172.50

Electrotypes are a very expensive proposition but an enormous amount has been saved due to the fact that the State Board of Health and friends who are interested in the success of Folks have donated cuts for the cover and the children's page. We have a small supply of cuts on hand at this time which we were able to purchase at reduced prices.

The stock expense is an item worth considering. This could be reduced a great deal if it were not for the fact that the magazine is mailed in envelopes. They could be mailed in a wrapper, or without any covering but no doubt the magazine would not be delivered in very good condition.

The editor of Folks received no compensation whatever for his work; the editor of the children's page received no compensation for the work and time required for this department—in fact everything in the magazine is donated with the exception of the advertisements.

One of the largest expense items connected with Folks is the mailing list. Stencils and filing cabinets have had to be purchased for this purpose.

Earle G. Brown, Editor.

A motion was made by Dr. J. F. Gsell, which was regularly seconded and carried that the reports be accepted as read.

Dr. O. P. Davis made a motion that the sum of $2,000.00 or a part thereof as may be required, in portions of $500.00 be appropriated to the use of the Bureau of Public Relations and that no transaction be made for any other purpose for the coming year and all checks shall be issued through the Bureau office. After a great deal of discussion the motion was regularly seconded and carried.

After much discussion relative to the proposed Student Loan Fund, Dr. O. P. Davis made a motion that the House of Delegates approve the principle of the Student Loan Fund and authorize the Council to formulate plans for working out and applying this principle at an early date, which was regularly seconded and carried.

Dr. C. C. Stillman presented the following report for his Committee concerning a full time lay secretary:

Your Committee recommends that a committee of five, not members of the Council, be appointed to study plans as to the cost and practicability of employing a full time Secretary or Business Manager and to report to a meeting of the Council to be held during the Fall Clinics at Kansas City. Such a meeting of the Council and Committee is to be without cost to the Kansas Medical Society. The plan selected by the Council and Committee will be presented to the House of Delegates next year for their consideration.

We find nothing in the Constitution and By-Laws that would prohibit the adoption of the program outlined.

Dr. E. C. Duncan,
Dr. L. F. Barney,
Dr. C. C. Stillman.

The report was adopted as read.

Dr. B. A. Nelson made a motion that the chair appoint Dr. J. F. Gsell as Chairman of the above Committee, which was regularly seconded and carried. Dr. Mitchell appointed the following Committee: Dr. J. F. Gsell, Dr. C. C. Nesselrode, Dr. Walter Stephenson, Dr. A. R. Chambers and Dr. Milton B. Miller.

The following amendment to the Constitution which was proposed at the House of Delegates in 1931 was resubmitted and carried, that Article 7, Part 3—after the word, "Treasurer" insert the words "all ex-Presidents."

Meeting adjourned at 10:40 a. m.

COUNCIL MEETING

The newly organized Council met May 5 at 11:00 a. m. in the Auxiliary Room of the Soldiers and Sailors Memorial Building. The meeting was called to order by the president, Dr. P. S. Mitchell.

By unanimous vote the meeting place for 1933 annual meeting was decided to be held at Lawrence and to be a three-day session. The dates of the meeting were left to the decision of the Secretary.

A motion was made by Dr. C. C. Stillman, which was regularly seconded and carried, that Dr. O. P. Davis be re-elected on the Defense Board.

Standing of Defense Board

Dr. W. F. Fee, term expires 1933.
Dr. C. C. Stillman, term expires 1934.
Dr. O. P. Davis, term expires 1935.

Secretary's Expense Account

Stenographer's salary	$ 300.00
Stamps	78.77
Long distance calls and telegrams	7.15
Miscellaneous	16.90
Secretary's salary for past year, 5/1/31 to 5/1/32	1,000.00
	$1,402.82

REPORT OF JOURNAL OF KANSAS MEDICAL SOCIETY

Financial Statement

RECEIPTS

Journal advertising	$4,239.66	
Sales and subscriptions	312.56	
Kansas Medical Society	2,000.00	
Other sources	12.48	
	$6,564.70	

EXPENDITURES

Journal printing	$2,539.25	
Stock and stationery	833.55	
Salaries and wages	2,364.00	
Postage	153.77	
Electrotypes	78.40	
Office rent	225.00	
Drayage	7.75	
Telephone	62.93	
Insurance	9.74	
A. M. A. directory	12.00	
Office equipment and supplies	50.82	
	$6,337.21	
Salary due Dr. Brown	500.00	
Salary due Miss Carlson	90.00	
Deficit May 1, 1931	218.83	
	$7,146.04	
Total deficit May 1, 1932		$581.34
Bills payable	61.50	
	$7,207.54	

Receipts	$6,564.70	
Bills receivable	656.00	
	$7,220.70	
Balance		$ 13.16

Comparative statement of the Journal of the Kansas Medical Society for the years 1931-1932.

RECEIPTS	1931	1932	More	Less
Journal advertising	$4,387.98	$4,239.66		$148.32
Sales and subscriptions	347.46	312.56		34.90
Kansas Medical Society	2,000.00	2,000.00		.....
Other sources	20.00	12.48		7.52
	$6,755.44	$6,564.70		$190.74
EXPENDITURES				
Journal printing	$2,628.50	$2,539.25	.....	$ 89.25
Stationery and stock	845.05	833.55	.....	11.50
Salaries and wages	2,780.00	2,945.00	$174.00	.....
Postage	201.29	153.77	.....	47.52
Electrotypes	144.96	78.40	.....	66.56
Office rent	300.00	225.00	.....	75.00
Telephone and telegraph	4.90	62.93	58.03	.....
Drayage	2.75	7.75	5.00	.....
Insurance	.....	9.74	9.74	.....
A. M. A. directory	12.00	12.00	.....	.....
Lancet subscription	12.00	.....	.....	12.00
Office sup. and equip.	42.82	50.82	8.00	.....
	$6,974.47	$6,927.21	$254.77	$301.83

This report shows that the total Journal expenditures for 1932 are $47.06 less than in 1931.

The office of the Journal of the Kansas Medical Society is operated on a very economical basis. In fact, there is need for equipment at this time that is essential for efficiency and comfort in any office.

The attached statement is very interesting from a comparative standpoint. It is noted that the amount of our advertising receipts, sales and subscriptions and other sources, is $190.74 less than in 1931. This is due to the difficulty we are having in retaining our old advertisers and in securing new accounts. Several large manufacturers, sanitariums and hospitals have discontinued their advertisements temporarily. However, we are encouraged at the present time because new accounts have been received. The General Baking Company are using a one-half page advertisement; The National Drug Company have ordered a page advertisement, every other month, beginning with the May number; The S. M. A. Corporation have increased their advertisement from a quarter page to a half page, and E. R. Squibb and Sons are continuing their advertisement of one page a month, preferred space. This is interesting due to the fact that they had ordered us to change their advertisement to one page every other month for the year 1932.

The Journal printing, stock and stationery are less. We have a new contract with our printer, obtained in March, 1932, which will reduce this item very much, if we can keep our mailing list up to standard and near the 1800 mark. The following list will show what has been accomplished in this respect during the year from May 1, 1931, to May 1, 1932.

May	$212.00
June	223.00
July	213.00
August	222.00
September	213.50
October	222.00
November	213.50
December	217.00
January	217.00
February	201.25
March	192.00
April	192.00

Our salary item is more because it was imperative that we have more help in the office. Our postage and electrotypes are considerably less than in 1931. Our rent is $75.00 less due to the fact that we crowded the Bureau and Journal equipment into one room last fall to reduce expenses as much as possible. This brings our rent item down to $12.50 per month in place of $25.00 as was previously paid.

The Journal has never had a telephone item before as it was listed under Dr. McVey's name and paid by him. Our drayage bill is more and this is due to the fact that in order to reduce the cost of mailing expense in connection with the Journal it has been mailed from this office in place of the printers. This naturally necessitates a drayage item—hauling magazine from our office to the post office.

It became necessary last fall to insure the office fixtures and this accounts for an insurance item, formerly paid by Dr. McVey. Our office expenses are more because it was necessary to purchase another typewriter. A re-built one was purchased at the lowest possible price.

The total expenses for the Journal from May 1, 1931, to May 1, 1932, was $47.06 less than the previous year.

Earle G. Brown, Editor.

A motion was made that the report be accepted which was regularly seconded and carried.

Dr. Geo. M. Gray made a motion that the Student Loan Fund be referred to a committee of three and that Dr. O. P. Davis and Dr. J. F. Hassig be made members of this committee to work this matter out and report to the mid-winter meeting of the Council, which was regularly seconded and carried. Dr. Geo. M. Gray was named by the president as the third member.

Meeting adjourned.

GENERAL SESSION

The Scientific Session convened at 10 a. m. in Trembley Hall, third floor of the Soldiers and Sailors Memorial Building on May 3, 1932, to listen to the previously announced papers and to the discussions as presented in the official program by members and guests of the Society.

J. F. Hassig, M.D., Secretary.

COUNTY SOCIETY NEWS

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met in the Tankersly Hotel Coffee Shop on June 7, 1932, at 7:15 p. m. The physicians of Clay Center entertained the society and a number of guests with a banquet dinner.

At 8:00 p. m. the meeting was called to order by President Carr. The business session was dispensed with in order to give more time to the guest speaker. The meeting was conducted in an unusual fashion, in that during the meal a slip of paper was handed each physician present and it was his privilege to ask one question in the field of medicine or surgery.

Dr. Arthur E. Hertzler, guest speaker of the evening, was presented to the society and the following questions read by the secretary: 1. Discuss abdominal drainage; kind of drains to be used; when to drain and when not to drain. 2. Give a brief discussion of when to drain gall-bladders and when to remove them. 3. Give a clinical classification of goiter and treatment with special reference to iodine therapy. 4. Discuss the treatment of sacro-iliac strain. 5. When should a typhoid periostitis be operated. 6. Three case histories were read seeking therapy.

Dr. Hertzler's replies were brief, complete, instructive and injected with comedy.

Following the discussion, Dr. Stillman made a motion Dr. Hertzler be made an honorary member of the society, seconded by Dr. Lewis, motion carried.

Motion by Dr. Stillman that the physicians living out of the city give a vote of thanks to the Clay Center physicians, seconded by Dr. Need, motion carried.

Dr. Spessard of Beloit thanked the society for a very entertaining and instructive evening.

In view of the fact we missed a meeting in March, it was suggested we ask Dr. Wahl to talk to us on June 29, 1932, on his way to Beloit. Dr. Carr put question to vote, which carried. Secretary instructed to make necessary arrangements.

Twenty-nine visitors and 19 members were present. Meeting adjourned at 10 p. m.

A special meeting of the Clay County Medical Society was held June 29, 1932, in the Sun Room of the Clay Center City Hospital at 8:00 p. m. The meeting was called to order by President Carr who presented Dr. W. R. Dillingham of Salina, president of the Golden Belt Society.

An invitation was extended to the Clay County Society and all visitors to be present at the next Golden Belt meeting, Thursday, July 7, 1932, to be held at Tescott, Kansas, with Dr. C. D. Vermillion as host.

Dr. Dillingham stated that the Saline County Medical Society was in favor of the following:

1. That a "full-time" lay secretary be appointed for the Kansas Medical Society.

2. That when the last increase in state dues was put into effect we were assured that the purpose was to build up the Defense Fund of the Society. We feel that this fund as raised can not now be legally or morally used for any other purpose than to provide defense against mal-

practice. We are opposed to using any part of the fund to provide "Student Loans" because such loans can not be considered assets; the common experience being that they are all too often never repaid. Instead of making "Student Loans" we favor increasing the safeguards about the Defense Fund and carefully conserving it and that the state dues be again placed at $5.00 per year.

3. That the magazine "Folks" is of very little value to the public or the profession. It is seldom read by anybody. It is therefore proposed that unless it can be proven that the magazine is self-supporting it should be discontinued. We oppose again turning over to the editor $2,000 from the general fund of the society to continue the publication.

4. That the Crippled Children's Law of the State is not in the best interest of the crippled child or the profession of the State of Kansas.

A short discussion was made by Dr. C. C. Stillman but no action was taken.

A letter signed by Kate Reynolds Coston was read to the society thanking them for the flowers sent as a token of friendship and sympathy at the time Mrs. Reynolds was called to her reward. The order members of the society will recall Mrs. Coston as the daughter of the sainted Dr. S. A. Reynolds formerly of Clay Center.

A letter was read to the society notifying them Dr. A. L. Lemon's name has been officially added to the roster of the Clay County Medical Society.

A letter signed by Dr. Earle G. Brown, editor of "Folks" magazine, was read to the society. No action taken.

A letter from Homer F. Sanger of the American Medical Association, Councillor on Medical Education and Hospitals, was read to the society requesting information in regard to the Clay Center City Hospital. Dr. Stillman made a motion that the secretary notify Mr. Sanger: "The Clay Center City Hospital is still in existence—bed capacity, 35—is a city organization run by a board consisting of three trustees elected by the people and that the hospital has excellent standing in the community with the support of the entire personnel of the medical profession contiguous to Clay Center." Motion seconded by Dr. Morgan, carried.

A letter signed by Loring A. Schuler, editor of the Ladies' Home Journal, was read to the society requesting that the Clay County Medical Society pass resolutions to the effect that it regards mortality cases of mothers due to childbed fever as being definitely preventable, and in the interest of public health that it urges prospective child-bearing mothers to seek only the care of able physicians. A motion by Dr. Stillman seconded by Dr. R. J. Morton that the secretary be instructed to write the following to Mr. Schuler:

"The Clay County Medical Society is in hearty accord with standards already accepted and published through the Journal of the American Medical Association and which are undoubtedly at the disposal of the Ladies' Home Journal."

A letter from the Sedgwick County Medical Society, signed by Mac F. Cahal, Executive Secretary, was read, stating the members of the Sedgwick County Medical Society have made a study of the present situation and have arrived at the conclusion that the law as it now stands is not for the best interests of the crippled children, taxpayers, or the physicians of Kansas. A general conclusion has been reached that this law is a strong movement toward the evils of state medicine. Dr. Carr suggested that this letter be shelved for further consideration.

The minutes of the two preceding meetings were then read and approved.

Dr. H. R. Wahl, dean of the University of Kansas Medical School was then introduced to the society and gave an excellent lecture on "Recent Advances in Some Common Diseases." Dr. Wahl discussed the pathological physiology of pernicious anemia, pneumonia, rheumatic fever and tuberculosis. His lecture was illustrated by lantern slides and pathological specimens. The members present were all in hearty accord that the lecture was extremely interesting and instructive. The lecture was discussed by the following doctors: Need, Dixon, Carr and Schaeffer.

Dr. R. J. Morton made a motion that Dr. Wahl be elected to honorary membership, seconded by Dr. Croson. Motion carried.

Dr. Carr thanked Dr. Wahl in behalf of the society for his very interesting lecture and announced that the next medical meeting will be held in September.

There were fifteen members and twelve visitors present. On motion meeting adjourned at 10:00 p. m.

J. Leonard Dixon, M.D., Secretary.

MARSHALL COUNTY MEDICAL SOCIETY

The Marshall County Medical Society met at Marysville on July 7. The following resolution was adopted:

"In view of the economic situation the Marshall County Medical Society does not feel that it can accept the Crippled Children's Clinic at this time."

The society also brought up for discussion the practice of patients who are able to pay of going to Bell Memorial Hospital, themselves paying the hospital fee and escaping a surgical fee. The secretary was directed to write the dean of the Medical School.

J. W. Randell, M.D., Secretary.

FRANKLIN COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Franklin County Medical Society, was held in Osawatomie at the State Hospital June 29, 1932.

The members of the society were guests of Dr. F. A. Carmichael and his staff at a banquet at 6:30 p. m., after which the program in charge of Drs. Eugene L. Aten and Paul E. Davis was presented.

Dr. John A. Dyer presided over the meeting in the absence of the president, Dr. John B. Davis.

The society at this meeting voted to honor a former member, Dr. J. R. Scott, now living in Alamo, Texas, by making him an honorary member.

The following program was presented:

Dr. Eugene L. Aten. Discussion of the Latest Treatment of Paresis, with presentation of cases.

Dr. R. W. Robb of the State Hospital staff. "Signs and Symptoms of Dementia Praecox."

Dr. S. D. E. Woods of the State Hospital staff. "Discussion of Manic Depressive Psychosis and Psycho-Neurotics," with presentation of cases.

Dr. F. A. Carmichael, Superintendent of the State Hospital, gave a discussion of "Mental Hygiene."

Dr. Earle G. Brown, Secretary of the State Board of Health, read a paper on "Undulant Fever."

Dr. R. L. Bower, of Kansas City, Mo., gave a discussion illustrated with lantern slides, on "Massive Atelectasis."

Moving picture films on "The Effects of Sodium Amytal on Manic Depressive Patients," were shown illustrating research work done by Dr. R. W. Robb.

A few remarks were made by Dr. John Sheldon of Kansas City, Mo., after which the meeting was adjourned.

J. F. Barr, M.D., Secretary.

PAWNEE COUNTY MEDICAL SOCIETY

The Pawnee County Medical Society met in regular session May 31, 1932, at 7:30 p. m. The meeting was held at the Larned State Hospital on invitation of Dr. J. A. Dillon, superintendent, and a special program had been arranged by Dr. Frank B. Fuson, president of the society. The attendance was one of the greatest in number in the history of the Pawnee County Medical Society. The doctors met at the institution early before the hour set for convening the meeting, spending an hour visiting the new 200-bed hospital which had been completed recently. The hospital is equipped with kitchen, dining room, a modern operating room, x-ray department, diathermy, hydrotherapy and laboratory.

Following the tour through the hospital, supper was served to the members and invited guests, after which the meeting was called to order.

First, an address of welcome was made by Dr. Dillon.

Second, spinal anesthesia was demonstrated on the screen by moving pictures. This presentation was very instructive and free from any advertising feature.

Third, Dr. Conwell of Halstead gave

an interesting address on Neurological Syndromes, including the Babinski, Parkinsonian and Brown-Sequard Syndromes. Cases of tabes dorsalis, Huntington's chorea and paralysis agitans were presented with instructive remarks by Dr. Conwell covering each case.

The following were in attendance: Doctors Frank B. Fuson, Clyde D. Blake, N. W. Robison, L. R. McGill, E. C. Button, R. J. Wheeler, Milton Morrow, J. E. Attwood, F. E. Dargatz, Mary H. Elliott, T. J. Brown, Carl W. Zugg, E. E. Morrison, G. O. Speirs, LeRoy Shepard, T. F. Brenman, M. F. Russell, Justin A. Blount, A. E. Reed, C. E. Sheppard, H. C. Embry, D. V. Conwell, J. A. Dillon, C. H. Ewing and P. Shinneman, D.D.S.

Mary H. Elliott, M.D., Sec'y.

PHYSICIANS LICENSED IN JUNE

The Board of Medical Registration and Examination through the secretary, Dr. C. H. Ewing of Larned, reports licenses were granted to 92 physicians at the annual meeting held in Kansas City, June 21 and 22, 1932. Seventy were licensed by examination and 22 by reciprocity. One application for reciprocity was denied, while a second was held for further consideration at the December meeting. The certificate of Rafael Rivera who passed the examination was held pending the status of his citizenship.

Certificates were granted by examination to: Arthur Lawrence Ashmore, Donald Andrew Anderson, William Abrams, Chas. Clifton Andrews, Amil Carl Bach, Fred Stauffer Brenneman, William Brown, David Walker Basham, Henry Millard Benning, Emery Clarence Bryan, Brian Brewer Blades, Edward Bruce Badger, Andrew Porter Brown, James Oren Boley, Robert Henery Brown, Frederick Max Cluff, Marshall E. Christmann, Lucille Carman, Edson Crane Carrier, Porter M. Clark, Jr., Marlin Winthrop Carlson, Knox Dunlap, Willard Floyd Daniels, Leslie Fay Eaton, Guy Leo Earl, Farris DeVol Evans, Harry Edward Erni, Chas. Herman Finney, Garrison Albert Frost, James Bernard Foley, Harold Vandiver Ford, Leland Forrest Glaser, Geo. Freeman Helwig, Otto Joseph Hartig, Leslie Claire Hays, Willard Dennis Holt, Lester Ellsworth Ketner, Virgil Newton Kennedy, Austin Montgomery Long, Sylva Young Lofgreen, Victor Josiah Lofgreen, Charles Henry Miller, Werner Walter Mall, Jocelyn Elizabeth Mitchell, Noah Richard Miller, Ray Meidinger, Chas. Alexander McBurney, Donald Claude Malcolm, Roy Hector Moser, William Harold McCain, Geo. Chester Meek, James Allen McNalley, Zachariah Miles Nason, Gustave Asarie Roy, Rafael Rivera, Chas. Abraham Royer, Chas. Wesley Reed, William Paul Stanton, Harry Beach Stauffer, Arthur Blaine Richeson Smith, Lawrence Francis Steffen, Frank Elbert Tolle, David Paul Trimble, Clayton J. Traylor, Chas. Clinton Underwood, Daniel Russell Wilson, Walter Weisenborn, Jesse Wilbur Young, M. Wharton Young and Harold Victor Zuber.

Forty-five of the seventy physicians were graduates of the University of Kansas Medical School.

Those licensed by reciprocity included:

David Ritchey Braden, Kansas City, Mo. (Missouri).

Wyrth Post Baker, Washington, D. C. (Delaware).

Ernest Albert Creighton, Red Cloud, Neb. (Nebraska).

Mary Alice Townsend DeMotte, Buffalo, N. Y. (Missouri).

Harry Alfred Gerber, National Military Home, Kansas (Wisconsin).

Lawrence William Gregory, Waseca, Minn. (Wisconsin).

Kenneth Raymond Grigsby, Medicine Lodge, Kan. (Illinois).

Lewis Joseph Hammers, Goodland, Kan. (Illinois).

Basiel O. Hartwell, Drexel, Mo. (Illinois).

Claud Everett Hardin, Oswego, Kan. (California).

Fred Rife Isaacs, Lawrence, Kan. (Illinois).

Waldo Nathaniel Lemmon, Liberal, Kan. (Texas).

Frank Lionel Menehan, Philadelphia, Pa. (Illinois).

John William Mintener, Topeka, Kan. (Minnesota).

Geo. Theodore O. Bryne, Goodland, Kan. (Colorado).

Raymond Joseph Portman, Hiawatha, Kan. (Wisconsin).

Hale Burger Salvin, Beloit, Kan. (Iowa).

Allen Leo Spafford, Kansas City, Mo. (Missouri).

Cecil Dawson Snyder, Winfield, Kan. (National Board of Medical Examiners).

Alfred Linwood Seal, Lawrence, Kan. (Louisiana).

John Carroll Wiggins, Winston-Salem, N. C. (North Carolina).

James Elisha Wallen, Ottawa, Kan. (Illinois).

Glenn Hillis Yeary, Arma, Kan. (Oklahoma).

DEATH NOTICES

George E. Bush, Geneseo, aged 67, died June 21, 1932, at the Ellsworth Hospital, of diabetes and strangulated ventral hernia. He graduated from College of Physicians and Surgeons, Baltimore, Maryland, in 1888. He was a member of the Society.

Hunter J. Duvall, Hutchinson, aged 65, died June 27, 1932, of carcinoma of the prostate gland. He graduated from Kansas City Medical College, Missouri, in 1894. He was a member of the Society.

Jacob J. Entz, Norton, aged 69, died June 29, 1932, in Sedgwick County, of chronic nephritis. He graduated from Bennett Medical College, Chicago, in 1886. He was not a member of the Society.

Joseph J. Growney, Kansas City, aged 64, died June 4, 1932, of carcinoma of the breast. He graduated from Central Medical College of St. Joseph, Missouri, in 1897. He was a member of the Society.

James W. Hempstid, Burrton, aged 71, died May 28, 1932, of myocarditis. He graduated from National University of Arts and Sciences Medical Department, St. Louis, in 1885. He was not a member of the Society.

John B. Rees, Mapleton, aged 84, died May 3, 1932, of diabetes. He graduated from College of Physicians and Surgeons, Keokuk, Iowa, in 1891. He was not a member of the Society.

Charles I. Welsh, Clyde, aged 73, died June 22, 1932, of diabetes. He graduated from Bennett Medical College, Chicago, in 1894. He was not a member of the Society.

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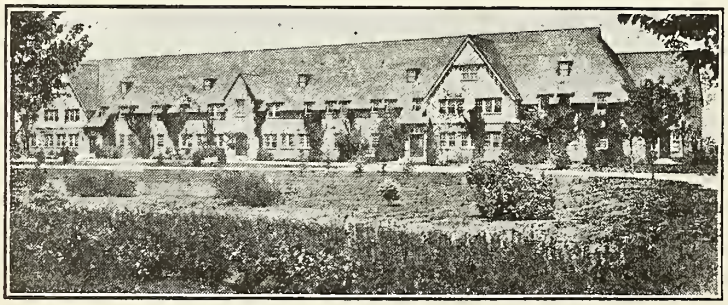

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Superintendent

THE JOURNAL
of the
Kansas Medical Society

VOL. XXXIII TOPEKA, KANSAS, SEPTEMBER, 1932 No. 9

ORIGINAL ARTICLES

THIS "DOCTOR" BUSINESS*

Ernest E. Tippin, M.D.
Wichita, Kansas

Many centuries ago Hippocrates prescribed a mode of conduct for the physicians of his day which has stood the test of time, but it remained for Christ the Great Physician to state the Hippocratic oath, the basis for our modern code of ethics in shorter, terser terms, namely, "I will do unto other doctors as I would have other doctors do unto me."

Why, then, with all of us subscribing to such an oath, do I ask "What is wrong with the 'doctor business'?" When there is so much "smoke" in the form of the constantly recurring articles in all our widely read magazines and papers that are either derogatory to, or at least frankly criticizing "this doctor business," there must be some little "fire" of truth smoldering away beneath the mass. Could it be possible that there is something wrong with us? Would it not be more reasonable, I almost said more pleasant, to think that the patient is really Old Man General Public, suffering from an acute bellyache or a hangover from a debauch of too much depression and hard times? Surely, no one could possibly think that the *doctor* business could be sick.

The logical thing to do would be to give both patients their annual physical examination.

In Mr. General Public, we find a nervous and apprehensive patient, who jumps at every sudden noise and whose face expresses fear and bewilderment. He states that he has always depended on the regular physician whenever he felt that there was something wrong with himself, but now, for the past few years the wonders of this or that "—ism" or "—actic" have been so constantly dinned into his ears by radio, either as a purported direct diagnosis of his ills or by the more subtle suggestions of "Amos and Andy," or flaunted before his eyes at the almost omnipresent movie, on bill boards on every roadside, and not only in the advertisements but also in the reading matter of any magazine or daily paper that he picks up, that he does not know whether he is afoot or horseback. Too often, if he consults his family physician in regard to these matters, he is met either with scornful laughter or else the learned M.D. breaks forth into such a bitter tirade against the cultist, that Mr. General Public begins to wonder if it isn't a case of "sour grapes" with the M.D.; that he is just jealous of the cultist, and over he goes to investigate, driven by the M.D. himself. Again, if he happens to be called to sit on a jury before which a damage suit in an accident case is being tried, his bewilderment knows no bounds. The plaintiff has an imposing array of medical talent, doctors of standing and reputation in the community, who by the use of x-ray films, charts, and other means prove that he (the plaintiff) has been terribly injured for life; then the defendant brings forth his array of medical talent, doctors, who, as far as Mr. General Public can tell have just as good an education and whose integrity and standing in the community is just as high as is that of the doctors whom the plaintiff had testifying in his behalf. These men then proceed to prove, just as convincingly, that the plaintiff is perfectly normal and is only faking his injuries. Is it any wonder that Mr. General Public is bewildered and disgusted when it is so perfectly apparent that one or the other of these two sets of doctors is ether ignorant or deliberately falsify-

*Read at the 74th annual meeting of the Kansas Medical Society, May 3, 4 and 5, 1932, Kansas City, Kansas.

ing, or both? So, if one group of doctors is of that type, the question is bound to insinuate itself into his mind as to the total guiltlessness of the other group.

So much for the history. We then proceed with the physical examination and diligent search fails to elicit any concrete evidence of pathology, so we dismiss the patient with a diagnosis of hysteria.

The other patient is of an entirely different type; calm, sedate and dignified. Ordinarily, he allows nothing to worry him. He states that he is not quite sure whether there is anything the matter with him or not, but that for some time past he has been having a vague uneasiness in the pit of his stomach as though something is not quite right. This has been especially true since he tried to digest the report of Dr. Wilbur and his committee on the medico-economic situation which contains the suggestion, or promise, or threat (which is it?) of state medicine. He states that he has always put his whole mind and heart into every thing that was for the betterment of the community, quietly disdaining to make use of the ballyhoo and fanfare advertising of the modernist, until he has been forced almost in self defense into a half-hearted attempt to educate Mr. General Public, by publishing lay magazines on health subjects. He wonders if there is something wrong with his spleen, when he views with only vague uneasiness, the passing of the private practitioner of veterinary medicine and his practical absorption by the United States Bureau of Animal Husbandry? And we wonder to ourselves if he realizes that such a thing is actually at the present time threatening the practice of medicine, and whether or not he will have the "gumption" to kick up a rumpus about the matter, before it is too late?

Further examination of this patient leads us to a strong suspicion that he is suffering from the Malignancy of Utter Indifference and the total lack of initiative of the individual toward the problems that confront the profession as a whole. A very good proof of this is the manner in which the friends of the pernicious Crippled Children's Law managed its passage with scarcely a "yip" out of the profession in general.

What then shall we say as to treatment and prognosis?

If this then, is a malignancy, nothing short of a complete eradication of our individual jealousies and envy must be made for the good of the whole profession.

A recent editorial in the Sedgwick County Bulletin contained the suggestion that some day, when business is none too brisk, that you select a patient who will submit to the experiment, examine him, carefully explaining any abnormalities discovered and finally present him with a pencil and paper and ask him to give you a graphic picture of the pathological processes involved. The results of this experiment will teach you to take none too literally the phraseology of the patient's recital of his infirmities as given to him by another doctor, especially when this description was given by the doctor, days, or even months before.

This tolerance and better acquaintanceship is certainly only to be fostered by better organization and use of the local societies. These local units must form the foundation and ground structure upon which the state and national organizations are to build. It is only when this foundation is broad and strong, in other words, when the local societies have built up the confidence of the public in our ability and integrity, can legislation or any other type of constructive work be accomplished. We feel that we can speak confidently, because of the vast improvement that has been made in the Sedgwick County Medical Society during the past year. The employment of a lay secretary is a great help because he has the layman's point of view and can contact the laymen and give them our point of view much more effectively than can anyone of us. The employment of such a secretary would work wonders in our state society, not only because we would then have one man definitely responsible for our interests while the legislature is in session, but his would be the responsibility of the blending together of our several units. It is only by having every in-

dividual and every county society firmly imbued with the idea of concerted action that any move may be made toward effectively meeting any of the tremendous problems now confronting us.

Many of you are old enough to remember how much vituperative calumny and bitter hatred were heaped upon the heads of some of the leaders of American business twenty years ago. Today they are among the most respected men in the United States. What has brought about the change? Carefully planned, persistent, favorable publicity. They probably never were the bad men they were given the credit for being, and today, they probably are not as good as they are thought to be but nevertheless, they are the same men now that they were then. Publicity has wrought the change in the attitude of the general public.

At a recent meeting of the American College of Surgeons, Dr. Allen B. Kanavel uttered some very bold words. He deplored the attitude shown of late by the American public toward organized medicine and suggested that there should be some modification of the strict code of ethics which would permit giving the public a missionary message. Said he, "Some say that medicine is ready for the museum of social institutions. Conscious of our high ideals, we are surprised and even indignant when an enlightened public dares to question our methods, and we unwisely resent any attempt to change it." Dr. Kanavel has, in plain language, stated that it must be taught that charlatanry and medical highjackery must be met and opposed with constructive publicity. "We must realize," he says, "the distinction between advertising for selfish ends and the education and welfare of the public."

In other words, it all comes back to the individual doctor and his own personal interpretation of the modernized form of the Hippocratic oath, viz, "I will do unto the other doctor as I would have the other doctor do unto me."

IS THE PROFESSION OF MEDICINE COMMITTING SUICIDE*

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Some months ago President Angell of Yale University in delivering the Fellowship address to the American College of Surgeons at their annual convention in New York City said in part, "Medicine is the one profession whose controlling purpose is to make itself more or less unnecessary—in other words to commit suicide."

It is evident, of course, that Dr. Angell's remark was in the highest degree complimentary, calling up as it did a picture of a profession so altruistic and noble as to be consciously striving for its own elimination and destruction. The profession could hardly ask for a more appreciative attitude on the part of a generous layman. But, as it is the part of every man to judge himself more severely than he is judged by others so it is the duty of those within the medical profession to be the first to detect its weaknesses. And as I pondered on Dr. Angell's phrase "to commit suicide," I wondered if perhaps the profession of medicine is not evincing some suicidal tendencies—of a very different kind to be sure from those Dr. Angell had in mind—tendencies which arise from imperfection, fallability, weakness, and indifference, which are in urgent need of correction. I am venturing to mention and discuss three such tendencies with you today which it seems to me are doing the profession of medicine a great deal of harm and which now stand in the way of its future development and progress.

We hear a great deal these days about the high cost of medical care, about the prohibitive expense of illness particularly chronic illness involving protracted stays in hospitals. Article upon article has appeared in the lay press during the last few years describing the tragedy of a siege of sickness in the average home, the drain that it entails upon the family savings, the sheer impossibility of the citizen of average income bearing the fi-

*Read at the 74th annual meeting of the Kansas Medical Society, May 3, 4 and 5, 1932, Kansas City, Kansas.

nancial burdens incurred and the urgent cry for co-operative action on the part of laymen to meet similar emergencies in the future.

No one really informed can deny that this condition exists, or that the facts concerning it are exaggerated. When a single siege of illness can wipe out the savings of years or even more put a family in debt for years to come it is high time that radical steps seeking its solution were taken. The problem is before us in a most acute form and stands as a direct challenge to the entire medical profession. Here is a condition whose continuance strikes at the very roots of that free and independent professional existence which is so dear to every physician and which he feels is so necessary for the growth and development of his profession. We all know and feel that state medicine, which will be the inevitable answer to our neglect of this problem, is destructive of the best interests of both patient and doctor. We are loathe even to contemplate this condition and generally refuse to discuss it altogether. We know that it will drain the wells of professional initiative and make the physician's life one of dull routine, that it will reduce the profession to a trade or perhaps to nothing more than a mere job.

And yet what are we doing about it. Except for membership on a few commissions to study the cost of medical care and a few sporadic attempts locally here and there to remedy conditions the profession is doing nothing whatsoever. The rank and file of medical men seem not to have given the problem serious thought or if they have their thoughts have remained inarticulate and unproductive. There is a tremendous amount of indifference to the problem and also apparently to its consequences. A great many dismiss it altogether by saying "that it is just too bad and we are sorry, but we can't help it," others become angry and construe the layman's complaints as attacks upon their honesty and sense of fairness. And precisely here we leave it dangling, unsolved and threatening.

A little sober reflection will convince any of us I am sure that however this condition arose and whether we like it or not this problem is ours and we must furnish its solution if our professional life is not to suffer. This realization must be burned into the conscience of every medical man and kept constantly before him until he is willing to do something about it. It must be seared into his very soul, if necessary, to make him act. It is our business, not the layman's, to furnish the leadership and to furnish the brains to unravel this distressing economic tangle and we must set about it with a will and purpose to conquer. Instead of delegating this task to a few men, let thousands of us set to work to see its solution. Out of the wealth of such concentrated thinking and planning will come a host of ideas that will lead to victory. *Let us never forget that the future freedom and independent existence of the profession is at stake, that state and social medicine are the inevitable consequences of our failure to solve this problem; that we must act or go down in defeat.*

In evaluating the cost of medical care it is only natural that the layman should think in terms of total cost or drain on his financial resources. He cannot be expected to stop and analyze the various items of this cost and therefore it happens, quite unconsciously, that the entire cost of medical care is charged to the physician and the medical profession. The cost of hospital, food, special treatment, private nursing, drugs, and laboratory fees amount to far more than the sum which the physician receives, and these items of cost should be very definitely separated in the layman's mind from the professional fees paid to the physician or surgeon for his services. Of the two and three-quarter billions of dollars annually spent for medical service and care in this country, only one-fifth, some twenty-two per cent, can be charged to physician's fees. This fact must be more generally appreciated by laymen and receive wider publicity in the lay press for it is precisely this failure, on the part of the layman, to analyze and apportion costs, that has given rise to the demand for lower professional services on the part of the physician. His

personal services are not too high and this fact can and should be made outstandingly clear and then broadcast. It is furthermore our business to see to it that this is done.

In this connection it may also be emphasized that it is high time that the average physician spent more time studying business and modern business methods. Of all professional men he sorely needs to become a better business man than he now is, for in spite of the high cost of medical care from which we are now suffering the physician is lamentably suffering from a very low and insufficient margin of collections. Business organizations and business methods have been neglected to the detriment both of the physician and patient and both classes suffer as a direct result.

A great deal of criticism has been levelled at the so-called exorbitant professional fees received by some physicians which has never been frankly and sympathetically rebutted by medical men. This criticism although it applies only to the occasionally high fees obtained by a few specialists for their services is too often considered as representative of the profession in general. The average fees of the profession at large are certainly very reasonable, perhaps too low at the present time, and any fair-minded layman will agree with this statement if the facts are presented to him in their true perspective. I am not so sure either that the profession needs to apologize for the large fees collected by certain specialists, provided it is made clear and convincing to laymen in general that by paying such high fees patients do not necessarily thereby secure better or more expert professional services. There are expensive lawyers, expensive stores, expensive hotels and restaurants, expensive automobiles, so why should there not be expensive doctors? So long as business men without special training or superior intellectual capacity can make from twenty to fifty thousand dollars a year selling bonds, scrap iron, peanuts, potatoes, and a hundred other commercial commodities, a way must be left open for physicians with business acumen to adjust their fees and incomes to the financial levels of their patients. The specialist, however, who by virtue of superior business ability can command these larger fees, must be willing, as he generally is, to adjust his fees to lower level of income when such patients consult him. The profession in general must itself severely condemn the pseudo specialist who by superior business ability, luxurious offices, and other trappings alone seeks to impress the layman as having an unusual professional ability and skill when these qualities are wanting. The general practitioner should always be able to refer the patient who needs the services of a specialist to more than a single man and to call attention to the fact that size of fee and professional skill do not necessarily go hand in hand, although at times quality and price may run parallel to each other.

It may well be that a portion of the present high cost of medical care can best be solved by co-operative effort. It seems quite conceivable for instance that local hospitals could sell, at very low rates, a hospital insurance guaranteeing a fixed number of hospital days of nursing, food, drugs and special treatment to individuals or their families. There can be no possible objection to such ventures for they involve no standardization or restrictions on things that cannot be standardized. The matter is quite different when the physician's services come to be thus treated. Professional ability, personality, and confidence are qualities which cannot be standardized without destroying them and they must always remain the subject of private and personal evaluation and free choice.

A second destructive tendency in our professional life is seen in the inability of smaller communities to secure good medical service. There is gradual abandoning on the part of the profession of the front line trenches in the battle against disease. Slowly but steadily the profession is moving back into more comfortable dugouts and headquarter stations away from the firing lines of immediate and humble service. Our young graduates, generally speaking, have little use for outpost duty. They are in no mood to settle down in the smaller and

simpler localities and there build themselves inextricably into the life of the common people. And yet it is precisely this very thing that the past generation of medical men did and did so nobly and well. Their lives were spent in front line trenches toiling early and late, forgetful of self, always struggling, always working for their patients and the calling that they had chosen. And it is this devotion and loyalty that enobled the profession of medicine and given it its present high standing, that has endeared it to mankind and set it on the high pinnacle that it now occupies. Can you imagine anything but this unselfish devotion to service to have inspired Robert Louis Stevenson to write his famous Eulogy of the Physician: "There are men and classes of men that stand above the common herd, the soldier, the sailor, the shepherd not infrequently, the artist rarely, rarelier still the clergyman, the physician almost as a rule. He is the flower of our civilization and when that stage of man is done with, only to be marveled at in history, he will be thought to have shared but little in the defects of the period and to have most notably exhibited the virtues of the race. Generosity he has, such as is possible only to those who practice an art and never to those that drive a trade; discretion, tested by a hundred secrets; tact, tried by a thousand embarrassments; and what are more important, Herculean cheerfulness and courage. So it is that, he brings air and cheer into the sick room and often enough, though not so often as he desires, brings healing."

There is no need of becoming unduly sentimental about the physician of the 70's and 80's or their immediate successors. They had their faults as well as their virtues and belong best to the generations that gave them birth and in which they labored. No one really informed seriously advocates that progress be stopped in order that we may practice medicine as they then did but we can well afford to conserve and indeed we must borrow from them the very remarkable qualities, which, so often knit doctor and family in bonds of friendship and devotion and helped to make medicine the noblest of professions. Medicine is still, in large part, an empiric art which demands mental understanding and sympathy quite as much as diagnostic and therapeutic skill. Indeed however scientific and exact medicine may become in the future, it can never, in the broader aspects of its practice, dispense with these qualities or afford to fill its ranks with men that have an essentially different outlook upon its duties. The physician, by the very nature of his professional duties, must ever, at times, be priest, counsellor, and friend, as well as medical adviser. He cannot practice medicine successfully along cold, impersonal, scientific lines however exact or scientific medicine may become, for a man is more than the sum of his component parts and his psychic faculties determine and direct to a very large extent his somatic existence.

The causes that prompt the young graduates to concentrate in cities and devote themselves so assiduously to the specialties are too numerous and complex to discuss at this time. Perhaps the time required to complete the modern medical course—I mean now the total time for preliminary training as well as the time spent in the medical school—is too long and the money investment too great to expect them to establish themselves in small communities and there settle down to the work of a life time. If, however, such is found to be the case a radical rearrangement in our medical curriculum will have to be undertaken in order to interest a group of men who will be satisfied with professional life in the smaller communities. For a profession that does not contain within itself, a group of men willing to serve society in its humbler as well as richer sectors cannot long remain healthy, strong and vigorous. While we should all urge prospective physicians to get as much preliminary training as is possible I can see no real danger in admitting to the study of medicine young men who have the development and training now required of students of engineering in our American universities. The young engineering student seems to be perfectly able with his present preliminary training to master

the differential and integral calculus as well as the applied mathematics of mechanics and thermodynamics, and medicine has at the present time no courses in its curriculum that require greater concentration or abstraction than these.

I approach my final point with much fear and trepidation for I am keenly aware that I am here trespassing on classic medical ground and may do violence to long established medical precept and doctrine when I venture to suggest a third weakness, or perhaps a neglect, in our medical practice, which, it seems to me, binds the profession too firmly to the past and prevents it from looking with true perspective and joyous anticipation of greater things yet to come in the future.

Ever since the time of Pasteur, medicine has concentrated its attention on bacteriology and pathology. These constitute the medicine of today. Bacteria beget disease—disease begets lesions—lesions beget pathology. And here, in the main, beginneth and endeth the central lesson of medicine. Valuable as these concepts have been in the past and fundamental as they always will be in the future, this sequence of fact is now so well established and appreciated that we must pass on to the exploration of other concepts, to wider horizons, and to further endeavors. So long as the principles and facts of bacteriology and pathology remain central and exclusive, or almost so, in our medical thinking and outlook medicine will dream of nothing beyond the successful repair of a broken down and diseased human body. Repair will be uppermost in our minds, will remain there to the exclusion of all other thoughts and concepts, governing, dominating, and limiting our practice and thinking. The physician of tomorrow must have a greater task than this to challenge his energies and his superior training. An enlightened lay public will demand more than repair of us. Medicine must abandon repair as its only ideal or *raison d' etre* and increasingly devote a considerable part of its energies, first to the production of the normal infant and subsequently to the conservation and maintenance of continued health in normal men, women and children.

I do not, of course, mean that medical practice ever can or should, abandon or neglect, the teachings of bacteriology and pathology or that diagnosis and treatment of disease can, for a long time, cease to be the major concern of the greater number of members of the profession. But the beginnings, however small, must be made in conserving and maintaining normal health. The beginnings have indeed been made but the profession at large seems as yet to be entirely unconscious of them. The experimental facts of human and animal nutrition have now reached a stage where it is possible to direct the nutrition of children and adults so that bacteria will have great difficulty in gaining a foothold. Adequate nutrition will do more than is generally known in carrying the expectant mother successfully through pregnancy; adequate nutrition will successfully bring the infant and child to maturity, strengthening and guarding him against the inroads of bacterial invasion and other disease. Successful nutrition will conserve health during man's prime and adequate nutrition will strengthen, protect and conserve old age. Human nutrition has not received the emphasis which it today merits. It deserves an attention on the part of medical men coordinate with that of bacteriology and pathology. There is a large body of knowledge concerning nutritional data that merits the title of science of nutrition. This science may become a powerful tool in the physician's armamentarium in the future. It must indeed do so if he is to advance beyond the stage of repair in his professional service. Our schools of medicine today scarcely recognize this important subject, certainly not in a major way. Few, if any, offer separate courses designed to emphasize the tremendous importance it may have in clinical practice. Here is a neglect that stands in urgent need of correction. For nutrition is the new sun on the medical horizon and its rays not only carry the power of healing but indeed make healing superfluous by conserving and maintaining the normal.

I have called attention, in too hasty

and incomplete a fashion I fear, to three tendencies in our medical practice which are destructive to the profession's growth, unity and vitality. In the first place the profession of medicine must, within its own ranks, furnish the initiative and provide the energy and leadership needed to solve the problem of the high cost of medical care or accept cooperative and state medicine as an alternative. We must also provide a body of capable men willing to settle down and to serve the public in the humbler districts and communities of the land. The profession must progressively transcend repair in its thinking, focusing attention in good part, on the ways and means of conserving and maintaining normal health, ever educating the laymen to appreciate the necessity and desirability of obtaining professional advice and service that does not involve a correction of the pathological.

Physicians Who Play Golf Know There's a Club for Every Stroke

Almost any player can swing around the course with a single club, dubbing drives lifting fairway sods and bringing home a century mark or more for the final score. But the finished golfer needs a club for every shot—a studied judgment of approach or putt before the club is selected.

Similarly in artificial infant feeding. For the normal infant, you prefer cow's milk dilutions. For the athreptic or vomiting baby, you choose lactic acid milk. When there is diarrhea or marasmus, you decide upon protein milk. In certain other situations, your judgment is evaporated milk.

Dextri-Maltose is the carbohydrate of choice for balancing all of the above "strokes" or formulae and aptly may be compared with the nice balance offered the experienced player, by matched clubs.

To each type of formula (be it fresh cow's milk, lactic acid milk, protein milk, evaporated or powdered milk), Dextri-Maltose figurately and literally supplies the nicely matched balance that gets results.

ENDOMETRIOSIS*

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By endometriosis we mean the ectopic growth of endometrium, that is, the growth of endometrial tissue in other locations than the uterine mucosa. This condition received relatively little attention till about twelve years ago but since that time volumes have been written about it. Endometriosis is of particular interest to gynecologists but should be understood by the entire medical profession because of its wide dissemination throughout the female pelvis and lower abdomen. According to reported figures endometriosis occurs in from 10 to 20 per cent of women between thirty years of age and the menopause who require an abdominal operation for some pelvic condition. This implies the condition is relatively common. It seems that it is being frequently overlooked since some gynecological surgeons say that they have never, or rarely, seen pelvic endometriosis. Many of these lesions when involving the ovary are probably being confused with ruptured *graffian* follicles. More cases will be recognized if surgeons will habitually closely examine the ovaries and incise them after operative removal.

Endometrial growths have been reported which involved the ovaries, uterine wall, fallopian tubes, round ligaments, labia majora, recto-vaginal septum, recto-sigmoid, appendix, utero-sacral ligaments, umbilicus, laparotomy scars, urinary bladder or perineum. These growths tend to be multiple and to involve more than one of the lower abdominal or pelvic structures in any given case.

Partly because of the different possible modes of origin of these growths, and partly because of some variations in their pathology in different locations some thirty different terms have been applied to them. However, since endometriosis is descriptive and indicative of the probable chief source of these endometrial transplants it is the term that is coming more and more into general use. The term

*Read before the Douglas County Medical Society, at Lawrence, July 7, 1932.

adenomyoma is used in referring to some of these tumors; particularly to those involving the uterus or the recto-vaginal septum.

Several different theories have been advanced to explain the origin and pathogenesis of these endometrial growths. No one theory probably suffices to explain all of them. A very large number of them are probably due to a spill of menstrual blood containing small fragments of viable endometrium out through the fimbriated ends of the tubes into the peritoneal cavity. These bits of endometrium become attached to some structure or structures in the lower abdomen or pelvis and begin growing there. This explanation of their origin seems satisfactory to account for many of these transplants. In recent years several men have reported observing blood oozing from the fimbriated ends of the tubes at laparotomies immediately following uterine curettement. We know that cast off human menstrual endometrium is viable for it has been grown in tissue culture. Also it has been shown experimentally that endometrial tissue from the genital tract of the rabbit will grow when transplanted to its peritoneum or anterior ocular chamber. There seems no longer justifiable reason to doubt the growth of human endometrium on pelvic or abdominal structures once it gains entrance to the peritoneal cavity. The reflux of blood through the fimbriated ends of the tubes is probably favored by retroversion of the uterus, repeated uterine currettement, forcible bimanual palpation, and the piston action exerted by forcing cervical dilators and capsules of radium up through the cervical canal. If the above factors do favor retrograde menstruation it seems that inflation of the uterus and tubes with air or gas in doing patency tests from below would be more likely to force endometrium out through the tubes. However, there does not appear to be any increased incidence of endometriosis in women who have had patency tests. This is probably explainable by the fact that care has been, and should be taken not to do such patency tests immediately after uterine curettement, during or within five to seven days after menstruation or in the presence of abnormal menstrual bleeding. It is interesting to note several men have commented on the absence of endometriosis in patients with vaginal atresia or intact hymen with hematocolpos. These cases, it seems, would be the ones in whom there would most likely be a backing up of menstrual blood through the tubes and out into the abdominal cavity with the subsequent development of endometriosis.

A second general source of misplaced endometrium is from the direct outgrowth of endometrium into the myometrium forming the so-called adenomyomata of the uterus. Low grade chronic inflammation or continued irritation may be a factor in the abnormal penetration of myometrium by endometrial tissue. By the presence of adenomyomata in its wall the uterus may be increased to two or three times its normal size. Such a diffuse growth may invade the whole myometrium but quite frequently it is limited to the posterior wall. In other cases the adenomyomata appear as localized, rather soft, non-encapsulated nodules in various portions of the myometrium. Often the mucosa covering these growths shows the mouths of invading crypts which have penetrated into the uterine wall.

Embryonic rests offer a third possible source of some of these endometrial growths. Development of misplaced, previously quiescent remnants of either the wolffian or mullerian bodies is believed to give rise to endometrial tissue. These fetal displacements may occur anywhere in the pelvic cavity, including inside the pelvic and inguinal lymph nodes. If we accept this theory of development of endometriosis why do we not find it in the male as well as the female?

Peritoneal mataplasia is advanced as another source of endometrial growths. Under the influence of inflammatory stimuli flat peritoneal epithelium becomes cylindrical in type and further proliferation produces tubular structures extending beneath the serosa.

There has also been discussed the possibility of endometrial cells being disseminated through the lymphatic and

venous circulation but there is as yet, I believe, insufficient evidence to prove or disprove this possibility. It may play some part in local growth or dissemination but I know of no case of metastatic or distant endometriosis.

There has been much discussion as to whether endometriosis ever occurs above the level of the umbilicus. If it does, it has not been observed and reported as it has been in the lower abdomen and pelvis.

Pathology: Endometrial transplants vary in size from small pin-head sized new transplants on the peritoneal surface of pelvic and lower abdominal organs to the large chocolate cyst of the ovary. They often appear as nodules or elevations on the peritoneal surface of these organs and are found most frequently in the posterior culdesac and about the various ligaments of the uterus. They are frequently seen as multiple, minute, puckered, scarred areas that may be hemorrhagic or present minute tarry cysts. These small tarry cysts or the typical tarry cyst of the ovary may rupture, discharging their contents into the pelvic basin. In this way the pelvic peritoneum may become repeatedly seeded with endometrial transplants. The typical tarry cyst or hematoma is best seen in the ovary. They usually measure from two to four centimeters in diameter, are sometimes larger, often bilateral and frequently eventually rupture into the peritoneal cavity. These endometrial growths have a strong tendency to become adherent to surrounding structures. In very extensively involved cases all the pelvic structures may be matted together by very firm fibrous adhesions. The diagnosis in these cases is often pelvic inflammatory disease. In some of them there is sufficient local invasion to simulate malignancy.

Microscopically, these lesions contain gland tubules, lined by epithelium and imbedded in a cytogenous stroma, making them indistinguishable from uterine endometrium.

Some of these endometrial transplants resemble endosalpinx and are probably derived from endosalpinx. This type would more correctly be referred to as endosalpingiosis. Those of endometrial origin are more common and produce more widespread lesions. Pelvic endometriosis is very often multiple, quite a number, or all of the pelvic viscera being simultaneously involved. Many of these small lesions are only of anatomic interest since they do not produce symptoms. They are most frequently seen on the under and lateral surfaces of the ovaries, seldom on the mesial surface. All of these endometrial transplants tend to actively participate in the menstrual phenomena of congestion, proliferation, hemorrhage and exfoliation, being under the influence of ovarian hormones. They become larger gradually due to the accumulated tarry menstrual blood. Ultimately they rupture into the peritoneal cavity and the point of rupture becomes healed over or adherent to adjacent structures. This process of rupture may be repeated several times and hence the pelvic peritoneum becomes repeatedly seeded with pieces of the epithelial cells lining these cysts. In this way multiple endometrial implants occur.

Since these lesions all menstruate they tend to produce pain that is most severe at the height of congestion which corresponds, in point of time, with the height of congestion in the uterine mucosa. The pain becomes less severe after the onset of menstruation, that is as soon as the congestion begins to subside. The location of the pain depends upon the location of the transplant. The other principal signs and symptoms as well as the treatment depend largely upon the location and extent of these lesions.

Endometriosis of:

1. Ovaries—Ovarian endometrial lesions vary from the small pin-head sized superficial transplants to the typical chocolate cyst. Many chocolate cysts of the ovary, however, are due to hemorrhage into simple ovarian cysts and not to endometriosis. The small lesions are usually discovered accidentally during the course of a laparotomy usually for fibroids. They do not tend to produce symptoms. The perforating hemorrhagic cysts of the ovary of endometrial origin are most often found between thirty years of age and the menopause, rarely

in younger women. Most of these women have acquired dysmenorrhea. The pain is due to hemorrhage and distension of the ovarian hematomas and also due to the associated pelvic adhesions which are often the sequellae of endometrial transplants. These women are usually sterile or have not been pregnant for many years, the incidence of sterility having been placed as high as forty per cent. These endometrial cysts of the ovary are often bilateral and, if large enough, may be palpable as a soft nodular tender mass on vaginal examination. Depending upon the extent of involvement, the culdesac may be firm and resistant, often nodular with the uterus more or less fixed in retroversion. The ovary may be found to be densely adherent. Rupture of one of these endometrial ovarian cysts may simulate closely a rupture of a tubal pregnancy, acute appendicitis, acute peritonitis or torsion of an ovarian cyst. Pregnancy is excluded by the absence of amenorrhea. A history of dysmenorrhea and signs of pelvic endometriosis aids in making the diagnosis. Adhesions around an endometrial ovarian cyst may cause acute intestinal obstruction. The treatment of ovarian endometriosis consists in removal of these hemorrhagic cysts If any healthy ovarian tissue remains it should be conserved unless the woman is at the menopause, or unless the pelvic involvement is so marked as to preclude its surgical removal. In the presence of either of these conditions both ovaries may be completely removed. The remaining pelvic endometrial lesions can be left and will retrogress after complete bilateral oophorectomy. If only minute lesions are present on the ovaries they may be destroyed with the electric cautery.

2. Uterus—Endometrial lesions of the uterine muscle are commonly spoken of as adenomyomata; they may be localized or diffuse. They are sharply defined but cannot be shelled out like the ordinary myoma because they blend intimately with the normal myometrium. These patients usually have marked dysmenorrhea and some menorrhagia. They may also have backache or pain in the lower abdomen. On vaginal examination one may find a smooth slightly enlarged uterus or a nodular organ. The subperitoneal type tend to become strongly adherent to surrounding structures. Treatment calls for hysterectomy in the diffuse variety. Small subperitoneal ones may be removed. Small endometrial transplants occur on the serosal surface of the uterus. Their treatment depends upon their size and the extent of involvement of other tissues. Small ones may be removed.

3. Recto-Vaginal Septum—Endometriosis of the recto-vaginal septum is associated with the growth of endometrial tissue in the posterior culdesac. Fibrous adhesions cause more or less obliteration of the culdesac and there is invasion of the recto-sigmoid and posterior vaginal wall. This condition should be recognized as early as possible because of the marked pathological changes that may occur in its subsequent development. Bimanual palpation reveals, in the early stages, a nodule about one centimeter in diameter in the recto-vaginal septum. At first the nodule is moveable and at this stage the patient does not commonly have symptoms. As the nodule enlarges it involves the anterior rectal wall and produces a fibrotic puckering in the posterior vaginal fornix. When the tissue menstruates it may form small blue-domed cysts that break open into the vagina. The recto-vaginal septum is usually quite tender and the patient often complains of marked dyspareunia. They usually have painful periods and may have menorrhagia or metrorrhagia. These patients commonly have a sense of fullness or pain in the rectum especially at menstruation when the nodule becomes swollen and congested. Defecation becomes painful and there may be rectal bleeding if there is induration and nodular protrusions into the rectal lumen. The symptoms subside and may disappear between periods. In its subsequent development the growth may invade the broad ligaments and surround the ureters and pelvic nerves. One or both ureters may become constricted due to the swelling resulting from menstrual reaction and there is a subsequent damming back of urine. Ultimately hydronephrosis and

even pyelonephrosis may result from the damming back of urine and the inevitable associated infection. There may be enough pressure on pelvic nerves to produce sacral backache and pain in one or both lower extremities, worse during menstruation. Adenomyoma of the recto-vaginal septum should be removed. This can usually be done if the condition is recognized early and there is not too much pelvic involvement. Quite frequently removal can be done through the vagina. In some cases, especially with marked pelvic involvement, removal may be impossible. In such cases it may be necessary to remove the uterus and both ovaries, or destroy the ovarian function with *x*-rays or radium, thereby removing further excitation by the ovaries and leave the pelvic tumor mass undisturbed. In some of these cases we have to deal with intestinal obstruction and treatment has to be directed toward its alleviation. In such a case it may be necessary to do a preliminary colostomy or, if the patient's condition permits, both colostomy and oophorectomy may be done at the same time. Later, in the absence of ovarian stimulation, the rectal constriction will gradually disappear, its normal function become reestablished and the temporary colostomy opening close.

4. Other Portions of the Bowels—If endometriosis occurs on other portions of the bowel than the rectum, it is usually the recto-sigmoid, terminal ilium, or appendix. Pelvic endometriosis usually exists simultaneously and any portion of the bowel which comes in contact with it becomes involved sooner or later. Endometriosis of the appendix simulates appendicitis. But the pain either occurs only at the menses or becomes more marked at these times. The blood findings are not those of appendicitis, there is absence of abdominal rigidity and there are usually associated signs of pelvic endometriosis. Since misplaced endometrial tissue undergoes decidual reaction if pregnancy occurs, pregnancy has been diagnosed by the microscopic observation of decidual reaction in endometrial tissue on the appendix removed from a pregnant woman. Many of these lesions on the surface of the intestine are small and superficial and as such give rise to no symptoms. Sometimes they invade the bowel wall to such an extent that extravasated blood from their menstrual activity may form hemorrhagic cysts or may be discharged by perforation into the peritoneal cavity or into the lumen of the gut. These patients tend to have pressure sensations and pain or spasm on defecation especially during menses. They are usually constipated, may have intestinal upsets with nausea, vomiting and diarrhea and may even have periodic bleeding from the rectum and signs of intestinal obstruction. Obstruction is due to the swelling incident to accumulated menstrual blood and to angulation and puckering from fibrous adhesions. The small lesions are probably best left alone unless there are only a few of them that can be easily removed or destroyed with the electric cautery. The appendix or epiploic appendages, if involved, can be removed. In case intestinal obstruction exists a temporary colostomy may be necessary. If the patient is at or near the menopause or if the bowel involvement is too great to be corrected by surgery one had best destroy the ovarian function by the method best suited to the individual case.

5. Tubes—Endometriosis of the tubes may be due to endometrial transplants on the serosal surface of the tubes or to abnormal growth of the tubal mucosa itself. These lesions of the tubes as well as those of the ovaries are important because of their possible relationship to ectopic pregnancy in these locations. Quite frequently there is no evidence of coexisting or previous tubal inflammation in patients with ectopic pregnancies. Since even misplaced endometrial tissue undergoes decidual reaction it may be an important factor in ectopic pregnancy by furnishing a resting place for the development of the fertilized egg in the tube or ovary. Tubal endometriosis due to abnormal growth of the tubal mucosa occurs usually as a single lesion, is usually symptomless and of no clinical significance.

6. Urinary Bladder—Endometriosis of the urinary bladder is quite rare. It may occur by direct extension from an ade-

nomyoma of the uterus or by implantation following the rupture of a hemorrhagic cyst of the ovary. These patients have urgency, frequency, burning or painful micturition in addition to the symptoms of the usually associated pelvic endometriosis. Their symptoms are all worse during menses. Hematuria results if the growth penetrates into the bladder. Cystoscopically these tumors appear as nodular, bluish-red elevations that might be mistaken for malignancy except for the fact that the overlying mucosa usually appears normal. The treatment depends upon the extent of involvement and the age of the patient. A young woman should have her ovarian function conserved and the mass removed, if possible. If the patient is at the menopause or if the ovaries are also too greatly involved to be saved, or if the growth is so extensive it cannot be removed it may be necessary to remove the ovaries and not attempt to remove the mass. Another alternative would be the use of *x*-rays or radium to destroy the ovarian function and therby remove the exciting ovarian stimulation.

7. Umbilicus — Endometrial growths have been observed a good many times in the umbilicus of women in the child bearing period. Thickening or small nodular formations occur in the umbilicus and these increase in size and may become tender and painful during menstruation. Small blood cysts may form and discharge menstrual blood during menstruation. The treatment consists in complete removal of the umbilicus together with the peritoneal aspect of the tumor mass.

8. Laparotomy Scars—Several cases have been reported where endometrial tissue was found growing in laparotomy scars. The assumption is that endometrial tissue was transferred to the tissues along the margin of the incision by the operator or assistants at the time of operation. Oddly enough less of these lesions have occurred after caesarean section than after ventrofixation, salpingectomy or oophorectomy. They most frequently are seen in the lower end of the operative scar. The area involved becomes swollen, tender and painful and a fistula may develop at the time of menstruation. During the intermenstrual period the symptoms may disappear or some pain and tenderness may remain. In view of the possibility of endometrial tissue being transplanted to the abdominal wall during operation the incision should be protected by towels or rubber dam.

9. Round Ligaments — Adenomyoma of the round ligament may occur anywhere along its course from the lateral angle of the uterus to the labium majus where it becomes lost. Some contend these lesions are due to late development of wolffian or mullerian tissue while others state they arise by the spread of endometrial tissue through lymph vessels or veins. Those located in the canal of Nuck or in the labium can be palpated, and may be mistaken for a hernia or a swollen lymph node. The swelling in the labium or groin becomes larger and more painful one or two days before the onset of each menstrual period. Such nodules had best be removed early for they tend to become hard and fixed due to adhesions and are then difficult to remove. The intraperitoneal type is more common and may be associated with more or less extensive peritoneal endometriosis.

10. Perineal Scars—A few cases of endometrial growths in perineal scars subsequent to pregnancy have been observed. The tissue becomes implanted in episiotomy wounds or perineal tears and grows there. It produces by swelling and congestion some pressure sensations and is likely to become tender and painful during menses. These nodules should be excised.

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Mortality From Abscess of Brain

On the basis of his observations in fifty-one verified cases of abscess of the brain, Francis C. Grant, Philadephia (J.A.M.A., Aug. 13, 1932), makes an attempt to determine the influence on the mortality from this condition of the following factors: difficulty in diagnosis and localization, time of treatment and method of treatment. His conclusions are as follows: 1. Brain abscess is not more difficult to diagnose and localize than any other intracranial lesion, provided sufficient care is taken in the study of the case. 2. A brain abscess should not be drained until it seems certain that encapsulation has occurred, preferably in the sixth week after the onset of symptoms. 3. Drainage by a small rubber tube has given satisfactory results. No matter what method is used, unnecessary trauma to surrounding tissue is to be scrupulously avoided.

THE FEMALE SEX HORMONES*

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Our knowledge of endocrinology, especially as it relates to gynecology, has been gradually increasing and correspondingly our views of the mechanism controlling the many functions of the female generative tract have undergone various changes. Much of the subject still remains problematical and is the source of great controversy. The introduction of new terms by various investigators has resulted in considerable confusion which has been further complicated by the introduction of proprietary names by a number of manufacturers.

A brief resume of the various glands influencing the female reproductive organs, their functions and the therapeutic application of our knowledge, might therefore be helpful and of some interest to you.

Since the days of Claude Bernard the ovaries have been credited with the chief control of female sex characteristics. However, their function depends to a great extent upon the interaction of other organs of internal secretion, especially the thyroid, suprarenal and pituitary glands.

In the ovaries themselves we distinguish at least two important hormones; one is found in the fluid of the ripening follicle and hence called folliculin. The other is secreted by the corpus luteum forming in the ruptured follicle after ovulation. It has been given various names, such as "progestin," "lutein," etc., but it is probably best to retain the designation of "corpus luteum hormone" —at least for the present. Other sources from which folliculin has been isolated are:

1. Amniotic fluid
2. Placenta
3. Anterior pituitary
4. Urine and blood of pregnant women.

Most commercial preparations of folliculin are obtained either from amniotic fluid or the urine of pregnant women. Folliculin and corpus luteum are antagonistic in their action and upon their proper interaction depends the periodicity of the menstrual cycle.

Without going into a discussion of the many theories, experiments, and evidence obtained by studies of vaginal smears from spayed rats, we can say that folliculin is the estrus-inducing hormone. It acts on the uterine mucosa producing hypertrophy of the endometrium and then bleeding.

In the normal twenty-eight day sex cycle the graafian follicle develops and matures during the first half of the intermenstrual period. The concentration of the follicular hormone in the blood increases during this period up to the time of ovulation or rupture of the follicle approximately on the fifteenth day. After ovulation the concentration drops rapidly while the corpus luteum begins to develop in the ovary. The latter half of the intermenstrual period may be designated as the corpus luteum phase.

The corpus luteum has much to do with implantation of the ovum and early development of the fetus. As the corpus luteum of pregnnacy becomes inactive the placenta in turn takes up this protective and stimulating power over the uterus and breasts preparing the sex tract for parturition and lactation.

If on the other hand the ovum is not impregnated, the corpus luteum rapidly becomes inactive, degeneration of the endometrium occurs and bleeding takes place.

Fraenkel demonstrated, in rabbits, that removal of the corpus luteum during the early weeks of pregnancy results in abortion or absorption of the fetus. Removal of the corpora lutea from guinea pigs hastens ovulation and estrus, while injection of an extract of corpus luteum delays ovulation and estrus. The luteal hormone is, as I stated above, antagonistic to the follicular hormone. It does not excite estrus nor does it cause genital hypertrophy in castrated or immature females.

Recently established evidence shows the ovaries are not the all important factor in the regulation of ovulation and menstruation. Ovarian activity depends on stimulation by a hormone produced

*Read before the Douglas County Medical Society, Lawrence, July 7, 1932.

by the anterior lobe of the pituitary or hypophysis.

The pituitary as a whole is the source of no less than four and possibly even more hormones. I want to mention them only briefly:

From the posterior lobe is derived: 1. The pressor principle which raises blood pressure and stimulates smooth muscle of intestines. 2. The oxytocic hormone which stimulates the contraction of the uterus. In the anterior lobe we have 3. The growth hormone and 4. The sex hormone. Zondek promulgated the theory that there are two sex hormones in the pituitary, but experiments of American workers seem to indicate there is only one.

There is also considerable evidence that the growth and sex hormones of the pituitary are antagonistic. For example, the sex hormone normally does not begin to function until growth is beginning to slow up. All of us have seen tall and lanky youths, underdeveloped sexually, or short and precociously matured individuals. It is possible that Fröhlich's syndrome represents the suppression of the sex hormone by the growth factor.

The anterior pituitary sex hormones differ from the ovarian hormones in the following way: It is responsible for the development of the genital tract and secondary sexual characteristics and initiates the changes which occur at puberty. It influences the ovaries so as to cause the ripening of immature follicles and the formation of corpora lutea. For this reason Zondek calls the anterior pituitary the "motor of ovarian activity." It has no direct effect on the uterine mucosa. It does not produce estrus in castrated females.

On the other hand, the follicular hormone has no effect on the follicular apparatus but exerts its distinct influence on the lower genital tract.

It is obvious from the foregoing that in a case of hypofunction of the pituitary sex hormone normal follicle formation may not occur, and deficiency of the estrus-inducing hormone (folliculin) as well as of corpus luteum will be the result. But although there may be an adequate supply of anterior pituitary, the result will be the same if the ovary is incapable of responding to stimulation for pathological or other reasons.

I will mention only briefly the two other associated glands, thyroid and suprarenals. The thyroid gland enlarges in association with periods of special sexual activity. Thyroid extract increases genital function as is shown by the relief of amenorrhoea resultant from its use. Hyperfunction of the suprarenals is thought to predispose to unusual sex activity. The circulatory symptoms and sympathetic imbalance of menopause seem to indicate a close relationship here.

THERAPEUTIC AND PRACTICAL APPLICATION

A discussion of the hormone tests for pregnancy is outside the scope of this short discussion.

Clinical conditions, in which we can expect beneficial results from hormone therapy, may be separated into three groups:

A. Those associated with primary pituitary dysfunction, such as delayed puberty and infantilism.

B. Those associated with insufficient follicle formation, such as functional amenorrhoea, hypomenorrhoea and oligomenorrhoea.

C. Those associated with insufficient corpus luteum formation, such as hypermenorrhoea and polymenorrhoea.

I am using here the simplified terminology of menstrual disorders proposed by Novak replacing such terms as menorrhagia, too frequent menstruation, etc.

Needless to say, that before diagnosing a functional disorder one must be sure to rule out the possibility of pathological changes or anatomic malformations. Treatment with glandular preparations by mouth has been disappointing and is not very effective. The dosage by mouth should be much larger than is customary. German investigators, experimenting with a follicular substance (progynon), have found the ratio of effective dose by mouth and by hypodermic administration is 4:1. The treatment by hypodermic injections is much more promising and is made possible by the increasing number of purified products available. The follicle hormone has

been isolated in crystalline form by Doisy and has been given the name of Theelin.

Secondary amenorrhoea and premature menopause, providing there is no other cause for the follicular hypofunction, can be expected to respond also to pituitary injections. The anterior pituitary sex hormones are not indicated when the ovaries are not present or are incapable of responding to stimulation as in surgical or the natural menopause. In these conditions only the injection of the follicular hormone can be expected to give relief.

The follicular hormone is also effective in painful and nodular breasts, occurring periodically just before or after each menstruation.

Sterility and frigidity, especially in patients who have amenorrhoea or hypomenorrhoea may yield to the follicle stimulating power of the anterior pituitary hormone. Some of these patients complain of migraine and obesity in addition to amenorrhoea.

Finally, those conditions which are characterized by an absence or deficiency of corpus luteum can be treated either by substitution or stimulation. In one case we supply the missing secretion by injecting a potent corpus luteum extract, in the other we depend on the anterior pituitary hormone to cause luteinization of the follicle. Good results have been reported in the treatment of functional uterine bleeding and hemorrhage (poly and hypermenorrhoea) by this method. The anterior pituitary hormone therefore may bring about directly opposite effects. In a case of amenorrhoea or hypomenorrhoea it may stimulate menstruation through its action on the follicle, and in a case of hypermenorrhoea check the flow by stimulating the corpus luteum.

As the hormone of corpus luteum is essential not only for implantation but also for the continuance of pregnancy during the early stages, and as it is furthermore antagonistic to the oxytocic principle of the pituitary, one can readily see the rational indication of corpus luteum in habitual abortion.

Corpus luteum given early at the time of delivery seems to have a relaxing effect on the cervix, which at times is almost analgesic in action.

In administering these hormones one should remember the best time for anterior pituitary is shortly after menstruation; for folliculin just before ovulation, and for corpus luteum just before the next period.

THE PULSE IN LABOR

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The parturient state may be divided into three periods: Prenatal, natal, and postnatal. The first and third periods must be directed and supervised by the physician, yet, the response and co-operation of the patient is necessary in both periods. We would not in any way lessen the importance of the physician's work in these periods but would rather emphasize the necessity of the physician assuming full charge and responsibility for the management of labor.

The reports of the White House Conference on Maternal and Infant Welfare show that most of the mortality and morbidity of pregnancy has its origin in the management of labor. A closer analysis of these reports directs our attention to the unfortunate and the adverse results that have followed attempts to relieve pain and shorten labor by unnecessary interference. Two conclusions may be drawn from these reports. First, there should be a more conservative attitude toward all obstetrical procedure. Second, the life and health of the mother and child are the important objectives toward which all obstetrical effort should be directed.

Obstetric care in the prenatal and postnatal periods has become fairly well standardized. Unfortunately in the management of labor procedure has been in keeping with the attitude of the individual clinic or physician. We are prone to forget that the teachings have been, and are, that certain basic principles obtain in the clinical course and management of labor. We refer to the emphasis

that has been placed on the mechanism of labor, cervical dilatation, station, rotation, the maternal pulse and foetal heart beat, and periods of rest when necessary. Last, but not least, interference should be considered only when in the interest of the mother or child, and therefore the importance of watchful waiting.

If prenatal care has been properly directed, the most important problem will have been solved: the probability of the patient giving birth to her child with safety. In the absence of prenatal care an immediate physical examination with special attention to pelvic measurements, the size of the baby, and the physical resistance of the patient will establish the probability of the safety of the mother and child. In either case there remains only to follow basic principles and wait. Such principles, when followed must necessarily carry assurance. To this end we would suggest the maternal pulse as a guide for safety and as an indication for interference or non-interference.

I dare say that our earliest remembrance of the family physician was that he examined the tongue, mucous membranes, took the temperature and held the pulse for some time. To our untutored minds this meant just a doctor. But to our professional minds these simple examinations carry valuable information, for what is more important than dehydration, temperature, anaemia or the pulse rate in labor?

It has been a most interesting observation through the years that those patients who delivered normally with a pulse rate below 100 made uneventful recoveries. It has been equally interesting in those cases in which interference was done if the same conditions, (i.e. a slow pulse), obtained that the results were the same. Such observations directed our attention to the importance of the pulse rate in labor. This also led us to establish a personal standard which we would commend to you, that from the onset of labor until completed, the responsibility is ours, and the pulse rate shall at all times be 100 or less. We have not been able to maintain such a pulse rate in all cases but have been able to lessen the number in which the pulse rose above 100. To establish such a standard requires supervision by competent assistants or by the physician himself.

For these observations we have kept an accurate estimate of the pulse rate in 1500 private cases that have been personally supervised. From our conclusions we can assure you that enthusiasm will increase with practice and results will be in keeping with our attitude in that practice.

Pain, exhaustion, the third stage of labor and the time factor are the problems to be met. It is not in our province to discuss the different methods used for the relief of pain. We have attempted to use morphine judiciously and have followed a modified Gwathmy formula with gas-oxygen or ether as seemed to be indicated. In a recent consultation we were able to carry a patient from Friday until Wednesday with a maximum pulse rate of 88 after which time the patient delivered normally. At no time was there any embarrassment of the foetal heart beat or any indication for interference. The patient was a Para I, 26 years old, five feet two inches in height, weight 168 pounds; an R.O.P. position with premature rupture of the membranes; and a history of painful menstruation for several years. Physical examination showed no disproportion between the pelvis and the child. It was a question of following basic principle with periods of rest and waiting. Complete dilatation, which is always a difficult problem in patients with painful menstrual periods, and rotation were the problems in this case. No more trying cases are to be met, because of the length of time and the problems involved, yet, the importance of following such a routine as just mentioned was proved by the results—a normal delivery with a pulse rate of 88 and a live healthy baby. The cry of the patient, or the anxiety of the relatives or friends at such a time may cause fear, or sympathy, to interfere with our judgment and may be the cause of unnecessary interference. Yet, with a normal foetal heart beat and maternal pulse consistently below 100 a good prognosis is assured.

Pain and exhaustion have a markedly different effect on the various classes of

patients. The prenatal history of physical resistance, the anatomy of the woman and her social status determine her rating as an obstetrical risk. Diseases of the heart, lungs, kidneys or thyroid are often complications of labor. In all these problems the pulse rate is of first importance. During the second stage of labor the pulse rate may increase rapidly unless pain and exhaustion are relieved. Frequently we have observed a pulse rate of 120 drop to 80 or 90 and remain as such after a period of rest. This was also observed after the administration of gas-oxygen or ether. It is here that the efficient anaesthetist is most important. Gas-oxygen or ether, when poorly given, or attempts at interference before the patient is completely anaesthetized will show changes of 20 to 60 in the pulse rate. In a well administered anaesthetic of ether or gas-oxygen there should not be a change in pulse of over 20 at any time even if the anaesthetic extends over a period of two or three hours. Interference, rough manipulation, traction on the undilated cervix, traction in the wrong direction, or too rapid delivery will increase the pulse rate at once. In all cases the anaethetist may improve procedure by frequently reporting the pulse rate to the operator. We have been able to do low forceps, breech extractions, and versions with episotomy and repair and still have a maximum pulse rate of 100. This can only be done by following basic principles of complete dilatation, station, rotation, pelvic planes, respect for tissue insult, slow delivery and a competent anaesthetist.

The third stage of labor carries many possibilities of mismanagement. Too early delivery of the placenta, loss of blood, traction on the cord, or too rough Crede, all may cause marked change in the pulse rate and volume in a short time. I think I can say from experience that an accurate measurement of all loss of blood with attention to the pulse rate will remedy the abuses of the management of the third stage of labor. After delivery we have followed a routine of putting a warm blanket over the patient and waiting for complete consciousness before disturbing her in any way. Vomiting seldom occurs and, with a well contracted uterus, bleeding is reduced to a minimum. If absolute rest is then maintained for 24 hours the puerperium will, in most cases, be normal. If, during labor or delivery, the pulse has reached 120 for a short time it will usually return to normal before the patient has been removed to her room. If a pulse rate of 100 or below has been maintained throughout labor, the first week of the puerperium is quite characteristic. The patient eats and sleeps well, involution is rapid, and most marked, is early tissue repair. While we cannot say positively, we believe that after-pains are lessened. Catheterization is seldom necessary and few laxatives are required. If a repair has been done, there is little discomfort or swelling. In other words, if the physiological balance of the patient has been maintained, complications of labor are seldom seen. Furthermore, tissue reaction and regeneration are found to be in keeping with the pulse rate. Most of our cases were examined at the second, fourth and sixth month, and in many, the type of labor would be evident in the reparative processes and the ultimate condition found.

Such a report would seem to carry undue enthusiasm. Probably so, but from our observation and experience, I can assure you that if accurate data is kept on 100 cases that have been managed in the manner above described, the investigator will share the same enthusiasm. It means that we must follow those basic principles so familiar to all, with special attention to the value of the pulse rate as a guide to safety and to proper and conservative procedure in labor.

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Neurologic Features of Pernicious Anemia

Richard H. Young, New York (J.A.M.A., Aug. 20, 1932), presents an analysis of the neurologic aspects in patients with pernicious anemia who have been admitted to the Peter Bent Brigham Hospital from its opening in 1913 to January, 1931. In this series of 515 cases there were 103, or 20 per cent, of the cases with well defined cord changes marked by reflex changes and ataxia. The incidence would have been much higher if lesser changes of the nervous system had been included. From his observations the author concludes that the associated lesions of the central nervous system in pernicious anemia may present a variegated symptomatology and may be disseminated in location.

UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

What Is To Be Considered Normal Rectal Temperature

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A certain amount of confusion exists as to what constitutes a normal temperature and how to interpret the thermometer readings by the mouth, axilla or rectum. There is probably no better opportunity for finding out what the normal is than by observing the rectal temperatures taken in normal new-born infants during the first 10 to 14 days of life.

In any obstetrical nursery the records will disclose thousands of rectal temperature readings. It is remarkable how nearly uniform these are in the full term vigorous infant. In the University of Kansas Hospital nursery the rectal type of thermometer is used and the routine procedure is standardized so that a sufficient time is given for the thermometer to register properly. Conditions in the nursery are favorable to maintenance of a uniform body temperature. All infants are subjected to the same normal environment, clothing is standardized, infants occupy cribs which are conservators of body heat. During the past year a summary was made of records of the new-born infants.

Conclusions from our statistics on normal new-born babies are as follows: First, that the *mean* rectal temperature for the two hundred cases taken on an average morning and afternoon readings spent in the hospital) was 98.6° F. Second, that only eight of these babies showed an exact temperature of 98.6° F. for each morning and afternoon reading. However, another group comprising fifty babies showed a daily average reading of 98.6° F. for the time spent in this institution. Fifteen of the babies out of the two hundred cases showed a persistently lower average of 98.45° F. while another group of twelve cases showed a persistently higher average of 98.7° F. The lowest temperature average found for any single child was 97.9° F. while the highest temperature average was 98.85° F. The highest fluctuation between the average of two times daily (for the time on any single patient noted was .7 of one degree.

Therefore, judging from these two hundred cases, we believe it is accurate to state the average rectal temperature of a new-born, well baby for the new-born period is 98.6° F.

Fall Conference Kansas City Southwest Clinical Society

The Tenth Annual Fall Clinical Conference of the Kansas City Southwest Clinical Society will be held in Kansas City, Missouri, the week of October 3, with headquarters in the President Hotel. The entire week will be devoted to hospital clinics, lectures and scientific sessions conducted by the distinguished guests and members of the Society. A joint meeting with the Central States Pediatric Society will be held October 7 and 8. Entertainment will be provided in the form of daily round table luncheons, a get-together smoker and dinners by the various specialty groups.

Simplifying Infant Feeding Problems

Vacation travel presents fewer difficulties in caring for infants on S.M.A. Instead of using milk from dairies of unknown standards, the mother in feeding S.M.A. is using a food made from milk which her physician knows to be produced under strict sanitary requirements and rigorous inspection.

Refrigeration is unnecessary because individual feedings of powdered S.M.A. may be made up as needed. If the supply runs out, S.M.A. is available virtually everywhere in the United States in prescription pharmacies from Skowhegan to Hollywood. S.M.A. is not a grocery product for adults, but a scientific antirachitic breast milk adaptation designed for infants.

S.M.A. is made to resemble nature's own formula, breast milk, as closely as modern scientific knowledge and laboratory control can accomplish—certainly closer than a trial and error formula.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of
The Kansas Tuberculosis and Health Association

When the idea of periodic health examinations was proposed a few years ago, it was hoped that many cases of early tuberculosis would be discovered by that means. Experience has somewhat dampened this early enthusiasm. This disappointment, however, does not warrant the conclusion that the periodic health examination cannot serve the hoped-for end. The reasons why better results were not achieved were analyzed by a special committee and published in "The Health Examiner," a publication of The Greater New York Committee on Health Examination.

Tuberculosis and the Health Examination

In spite of much popular education the majority of cases of tuberculosis are not discovered until the disease is already well advanced. Williams and Hill, who studied the experiences of 1,499 patients in tuberculosis sanatoria, found that 12 per cent on admission to the sanatorium were classified as minimal tuberculosis, 43 per cent were moderately advanced, and 45 per cent were far advanced.

The family doctor is on the firing line. The early symptoms of tuberculosis are usually indefinite and the patient first of all consults the doctor "around the corner." We cannot, however, always charge the delay in making a diagnosis to the doctor. More frequently the patient is himself responsible for the delay or the disease itself may be so insidious as to cause no alarming symptoms until the advanced stage has been reached. Williams and Hill found that of the 1,499 patients interviewed, 33 per cent sought medical advice within one month after the first symptom appeared; 29 per cent allowed a period of one to five months to elapse before going to the doctor; 9 per cent waited from six to eleven months; 24 per cent delayed from one to twenty years.

DELAY IN DIAGNOSIS

Tuberculosis organizations have repeatedly given forceful publicity to the early symptoms of tuberculosis including the urgent advice "to let your doctor decide." Such publicity almost invariably calls forth from certain laymen the criticism that the doctor is incapable of deciding. While such comments are doubtless unfair, they do raise the question as to how promptly the diagnosis is made by the physician, once the patient has come to him.

Williams and Hill found that the physicians took less time to decide that their patients had tuberculosis than the patients required to become aroused to their need of medical advice. At least 43 per cent of the group were diagnosed within a month of the first visit and almost one-half of these were told they had tuberculosis at the first consultation. This record is distinctly commendable. The less favorable side of the picture is that 16 per cent of the patients had to wait a year or more before they were told they had tuberculosis.

A more severe test of the ability to make diagnoses early may be made by analyzing only the group diagnosed as "minimal," of which there were 181 (out of the total of 1,499). Of this minimal group 70 came to the doctor within one month of the appearance of the first symptom. Twenty-six (37 per cent) of them were diagnosed within the first month and 15 (21 per cent) waited a year or more before a diagnosis was made.

What is the hope of discovering early tuberculosis among patients who come complaining of no particular symptom but simply for a health examination? The danger signs are frequently overlooked, perhaps because doctors are not always "tuberculosis conscious." The early signs of tuberculosis (with the exception of hemoptysis and pleurisy) seldom direct attention forcibly to pathological changes in the lungs. The symptoms are usually vague and indefinite. Lawrason Brown has said it might be well for every doctor to hang a sign in his office reading "Remember Syphilis and Tuberculosis" for these are the two great simulators of other diseases. It is true that one should approach each patient with an open mind and make deductions only from the findings, but since we "see

what we know" it is certainly not amiss to keep in the background of one's mind the possibility of tuberculosis in every case.

FINDING TUBERCULOSIS IN YOUTH

To be "tuberculosis conscious" is particularly necessary when examining youngsters in their late teens and early twenties. The dramatic rise of the tuberculosis death rate in the age period 15 to 25 contrasted with the low rate during early childhood, suggests that adolescence is for many the transition period; indeed the critical period for many who develop tuberculosis.

Most cases of adult type tuberculosis represent a super-infection on previously infected soil. In the adolescent period the sleeping embers of tuberculosis seem to burst into flame within a relatively short time. Then it is that we should be unusually alert for any danger signs of developing tuberculosis. Nor should it be forgotten that certain types of tuberculosis progress rapidly, as for example the subapical type in which the disease seems to develop acutely in the lung region immediately below the clavicle. From that focus it may spread or gradually become chronic, and the suspicion of some is that apical type generally considered to represent very early pathological involvement, is but the remains of a subapical, acute process. Other forms of acute development are the miliary and bronchopneumonic types.

HISTORY AND PHYSICAL SIGNS

Pulmonary tuberculosis may exist without any suggestion of ill health. While the history at best can be only suggestive, a careful history-taking is important. Underweight is no measure of the presence of tuberculosis, although rapid loss of weight is very suggestive. Of great significance is any suspicion that the patient has been in contact with a case of tuberculosis in the family, particularly if exposure has taken place during childhood. The constitutional symptoms such as fever, undue fatigue, rapid pulse, loss of weight, night sweats, draw one's attention to no special organ. Localizing symptoms such as cough, expectoration, hemoptysis, pleurisy, focus our attention on the lungs. Hemoptysis and pleurisy with effusion are strongly presumptive. If there is one typical symptom of tuberculosis it is fatigability. The more obscure the fatigability is, the greater is the suspicion that tuberculosis is its cause.

Skill in interpreting physical signs of tuberculosis lesions in the lungs depends on an understanding of the pathological mechanism. The variations are too many to discuss here. One general principle is that rales in the upper segments of the lungs warrant the presumption of pulmonary disease, probably tuberculosis. The nature of the rales whether fine, crepitant, or moist, makes little difference—any rale that persists after the patient coughs should excite the suspicion that tuberculosis is present. To elicit rales the patient is instructed to cough slightly at the end of each expiration. Rales, if present, will be heard immediately after the cough and perhaps at the beginning of the next inspiration. The time has passed when we wait for the finding of tubercle bacilli before venturing a diagnosis. The sputum should be examined repeatedly, but a negative finding in no wise excludes the presence of early tuberculosis.

In all instances in which the chest examination reveals abnormal signs, a radiograph should be made. In patients with suggestive symptoms and negative physical signs, a radiograph should also be made, for some early lesions can be discovered only in this way.

Should the tuberculin test be included? Early statistics created the impression that all adults and nearly all children reacted positively to the test. For that reason the value of the test was unwarrantedly discounted. Later observations have shown that infection is by no means so widespread. A positive reaction in an adult is of scant significance, but a negative reaction speaks volumes; it almost certainly excludes tuberculosis.

A GROUP DISEASE

Tuberculosis should be regarded as a group disease. Hence when a case of tuberculosis has been discovered the entire family should be examined, not only at the time of discovery of the active case, but also periodically thereafter. The

examination of the children should include the tuberculin test and, if the reaction is positive, a radiograph. In examining contacts, one should not omit the older persons of the household. It happens only too often that the grandmother with a "summer cough" or the elderly uncle with a "bronchitis," harbor in their fibroic lungs tubercle bacilli which they excrete over a period of years without ever being aware of it.

Periodic health examinations should be one of the best case-finding methods known. What is necessary is an understanding of this protean disease, a constant awareness of it and thoroughness in the ordinary techniques known to every doctor.—*The Health Examiner, April 1932.*

Results in Treatment of Acute Appendicitis

Frank K. Boland, Atlanta, Ga. (J.A.M.A., Aug. 6, 1932), presents a statistical study of the results obtained in the treatment of acute appendicitis. The study is based on a review of 4,270 cases in which treatment was given by 197 surgeons in eight hospitals in Atlanta during five years from 1927 to 1931, inclusive. All except forty-six of the patients were submitted to operation. The fact that there were no deaths among 219 patients admitted within six hours after onset demonstrates the immense value of prompt action. Most of these patients were students and nurses under closer supervision than the average person. The author concludes that the two outstanding factors in mortality and morbidity are delay in operative treatment and the promiscuous administration of purgatives before operation. The fault usually lies with the patient or with his family or friends, but the attending physician or surgeon is not always blameless. The error may be due to ignorance on the part of the patient, but it also may occur with the knowledge and consent and advice of the medical attendant. The physician's mistake is not one of ignorance, but of carelessness. Efforts must be continued and enlarged in the education of the public as to the early care of abdominal pain, a campaign that has been waged so vigorously in Philadelphia. The medical profession, however, must not be guilty in this respect, and not let familiarity with the commonest of all surgical diseases induce criminal somnolence.

Hyperthyroidism in Children: Review of Fifty-Seven Cases

During the past few years R. S. Dinsmore, Cleveland (J.A.M.A., Aug. 20, 1932), and his associates have seen at the Cleveland Clinic a number of cases of hyperthyroidism in children. Although formerly it was thought that hyperthyroidism in children under 14 years of age occurred but rarely, their experience has led them to believe that this disease is not as uncommon as is generally supposed. The diagnosis of hyperthyroidism in a child is not difficult in most instances; as a matter of fact, these patients frequently come to the physician with the diagnosis already made and, in the typical case, even the casual observer can identify the disease. Among the most common symptoms are tachycardia, exophthalmos, enlargement of the thyroid gland, extreme nervousness, easy excitability, great irritability and the tendency to cry over the most trivial circumstances. The author's experience with estimations of the basal metabolism in children with hyperthyroidism has been generally unsatisfactory. In the first place, it is difficult to know that a child is in a true basal condition; secondly, there are such variations in the estimations of the basal metabolism determined by different standards that it usually appears that the standards available are not sufficiently accurate. His tests have shown wide variation, especially from the initial reading. Formerly it was the practice to perform ligations in these cases and to send the child home for a period of three months, but in the author's latest series it has been possible to do lobectomy or thyroidectomy in practically every case. It must be remembered that for some reason the improvement that follows ligations is very definite. In children this improvement is greater than that seen in the average adult. Therefore, this procedure should not be discarded in favor of lobectomy if there is any doubt as to the wisdom of the latter as the primary operation.

THE JOURNAL
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EARLE G. BROWN, M.D. - - - - Editor

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EDITORIAL

FOOTBALL INJURIES

The football season is here. Already, hundreds of university, college, senior and junior high and even grade school students are having daily practice. In but a few days more, these teams will open their regular schedule of games.

Football, as a national sport, received much unfavorable publicity during and following the 1931 season. Two principal charges were made against the game: First, the sport was too dangerous, and second, the time given to the game was far in excess of the time given to other school activities.

Newspapers reported more than 40 deaths in the United States, the result of injuries received in practice or in football games during the fall of 1931. It appears there were only two deaths of members of major college teams, each of them being entirely accidental. However, Fielding H. Yost, Director of Athletics at the University of Michigan, made an investigation of these deaths and reported 21 could not be charged in any way to football. Among the 21 deaths, according to Yost's report were: 2 the result of pneumonia; 1 from anterior poliomyelitis; 1 from kidney disease; 1 from appendicitis; 7 from typhoid fever; 7 from heart disease, and 6 from infections of various types. One boy received fatal injuries while wrestling; another was struck by a truck; 1 small boy kicked at a soccer ball, missed and fell on his back; 1 reported dead was found to be alive and in good health, while another reported dead was found never to have existed.

According to the report of a committee of coaches appointed to investigate conditions during 1931 in the National Collegiate Athletic Association, football "ranked sixth in the number of hours devoted to practice and lectures during the season, taking up less of the student's time than such extra curricular activities as student publications, crew, dramatics, lacrosse and debating.

"Also football ranks but fourteenth in time devoted to various activities by students out of season, glee-club activity, for instance, being one of the things that makes more demands on the youngsters.

"In length of daily practice during the season, football stands fifth, with an average of 1.78 hours. In this connection it is surprising that it is the game of golf that requires the greatest amount of practice by the students, an average of 2.15 hours."

The past year apparently was the record year in the United States for reported fatalities resulting from football injuries. However, no deaths occurred in the State of Kansas which could be attributed to injuries received in football

practice or in games. According to reports from football coaches or athletic directors of 15 of the 17 universities or senior colleges in Kansas, 1,689 men were members of freshmen, class, intramural or varsity football teams during the fall of 1931. Of this total, 116 or 6.8 per cent received injuries of various types and of varying degrees sufficient to cause incapacity from practice or competition for a period ranging from a few days to several weeks. Comparatively few of these men were disabled for a period of more than one or two weeks. There were, of course, other minor types of injuries such as scratches, abrasions or bruises which did not cause incapacity.

Fourteen of the players in eight schools were reported to have received fractures as follows: small bone in the hand, 5; small bone in the ankle, 3; fractured ribs, 2; fractured arm, 1; fractured clavicle, 1; fractured bone in a finger, 1, and fractured bone of the thumb, 1. One player was also reported to have suffered a separation at the sterno-clavicular articulation. "Sprains," however, were the most frequent type of injury reported. Knee sprains totaled 41; ankle sprains, 33; wrist sprains, 7, and shoulder sprains, 5. In addition, 3 players suffered dislocated knees, and 2 each dislocated elbows or dislocated knees. One head injury resulting in double vision occurred, but reports were not received of any injury of vital organs in either the chest or abdomen.

In comparison with an absence of deaths from football, were six deaths of grade and high school students charged to injuries received while at school, arising from play or athletic competition. Two deaths were the result of injuries received while playing baseball; one death resulted from an injury received when a swing broke; one from a fall on the steps of a school building; one from an injury received while playing basket ball and one from an abdominal injury incurred while pole vaulting. No record is available as to the number of grade and high school students receiving nonfatal injuries while in attendance at school or while engaging in athletics.

In contrast with the 116 university or college football players receiving injuries resulting in temporary disability may be cited the reports to the Kansas State Board of Health in 1931, of 256 cases of typhoid fever with 41 deaths; 1,156 cases of diphtheria with 68 deaths, and 2,529 cases of smalpox with 7 deaths. The total of cases of these three preventable diseases was 3,941 with 116 deaths—a death from a definitely preventable disease for each university or college football player receiving a temporary disability. Each one of the 3,941 persons suffered at least a temporary disability, but in addition to the deaths many of the diphtheria victims will be permanent invalids, while others will have damaged heart muscle or valves which will prove serious handicaps the remaining days of their lives, although not necessarily resulting in total disablement. Each of the 3,941 cases of typhoid fever, diphtheria or smallpox would have been prevented through vaccination or immunization and available through the services of every medical man in the State of Kansas. Not a single, adequate excuse may be offered for the occurrence of one of the above named cases. Yet, even more cases and deaths must be added to the above huge total: 1,359 cases of tuberculosis with 700 deaths; 744 cases of syphilis with 118 deaths, and 678 cases of gonorrhea with 24 deaths. The three last named diseases are also preventable, not through the use of vaccines or antitoxins, but through the practice of personal and

community hygiene.

In further contrast must be considered the deaths of 1,488 persons who died in the state in 1931, the result of external violence—exclusive of suicides and homicides—accidental deaths. Accidents ranked fifth among the principal causes, being exceeded in totals only by heart disease, cancer, chronic nephritis and cerebral hemorrhage. Accidental deaths comprised 7.6 per cent of the 18,648 deaths and the death rate was 78.8 per 100,000 population. The automobile was the principal cause with 410; falls were second with 326; railroad accidents third with 122, 51 the result of collisions of motor vehicles and railroad trains; burns and drowning each accounted for 76 lives, while 75 deaths occurred from excessive heat, the sixth principal cause of accidental death. Records as to the total number of individuals receiving injuries are not available. However, in the experience of one large accident insurance company some years ago, 200 non-fatal claims were paid for each fatal claim. If this be an accurate index of the accident situation in this state, nearly 300,000 Kansans in 1931 received non-fatal injuries, many of which resulted in permanent disability.

It cannot be stated any death from a preventable disease is spectacular. There certainly is nothing spectacular in seeing a young child choke to death the result of a diphtheritic membrane in the trachea. Certainly, it is not a spectacular sight to watch a man or woman in the prime of young manhood or womanhood wasting away from the ravages of tuberculosis. The development of a case of syphilis or gonorrhea cannot be classed as other than a tragedy, the same as the development of any other case of a preventable disease. An accident may be spectacular in its occurrence to the very few who witness it, but almost inevitably that accident results in tragedy.

Football, however, is a spectacular game, played by many hundreds of teams—trained and untrained—before many hundreds of thousands of spectators each fall. It cannot be denied that the runback of the kickoff for a touchdown, the entire length of the field or the many intricate plays of a well-conditioned and well-trained team are not thrilling sights. Likewise, it cannot be denied football is not a rough game. Glenn S. "Pop" Warner, famous coach at Stanford University, has said: "It always will be a rough game as long as its two greatest fundamentals are tackling and blocking, wherein players must meet each other in personal collision." Football cannot be played by the untrained or the unconditioned player—without greater chances of injury than those who are well-trained and in prime physical condition.

The rules committee has adopted certain changes which will without doubt during the coming season lessen the possibility of injury to those playing the game. Certain changes will be made in the protective devices worn by players. On defense, players will not be allowed to strike an opponent on the head, neck or face, although the palms of the hand may be used to push an opponent in an attempt to stop a play or the progress of the ball. To the medical observer, it appears one of the most important changes is that which allows a player who has been removed from the game to return during any subsequent period. However, proper judgment must be exercised, and if the player is not physically or mentally able he should not be allowed to reenter, regardless of his own personal feelings or his value to the team.

A prospective football player should not be allowed to report for practice

without first having received a complete physical examination to determine his fitness for competition. Coaches and athletic directors have a direct responsibility in providing competent medical personnel for the members of their teams and to insist that minor injuries receive prompt treatment, for even minor injuries may often develop serious complications.

Many of those high in football circles predict the new rules will materially lessen the number of injuries. Of course, some injuries will occur; possibly some fatalities. It is hoped the injuries will be materially decreased and the fatalities entirely eliminated. Coaches are responsible for the teaching of clean play and clean play will eliminate many injuries. Officials are responsible for enforcing the rules of clean play and any player guilty of foul play should immediately be removed from the game by the official noting the violation.

In the meantime, each week, cases of typhoid fever, diphtheria, smallpox, syphilis, gonorrhea and other preventable diseases are being reported to the Kansas State Board of Health, and the boards of health of all the other states. It is almost impossible to read a daily newspaper which does not contain one or more accounts of an accidental death—likewise preventable.

It is hoped the general public will become as thoroughly aroused in the eradication of the preventable diseases and the lessening of accidental deaths as in the prevention of football injuries.

POST-GRADUATE WORK FOR MEDICAL RESERVE OFFICERS

The medico-military course of inactive duty training for Medical Department Reserve Officers, which has been held at the Mayo Clinic during the past three years, will again be held this year from October 16 to 29, both dates inclusive. This inactive duty training will follow the plan so well worked out under the auspices of Colonel George A. Skinner and the military features will be under his personal supervision.

This medico-military course is based on the sound principle that when the Reserve officer gives up two weeks of his time for inactive duty training at his own expense he should derive some benefit therefrom which will definitely help him in his profession. This method of training takes cognizance in a high degree of this principle in that the student officer receives two weeks of excellent clinical post-graduate work without fee and without any great loss of time from his practice than normally is incurred for post-graduate work, along professional lines. At the same time he gets a definite amount of medico-military training, the benefits of which he retains.

In furtherance of this concept, the Mayo Clinic has freely placed all of its clinical material, laboratory, museum, library and other equipment at the disposal of the Medical Department Reserve officers taking this inactive duty training. The faculty and staff of the Mayo Clinic have volunteered to give their services free in the interest of national defense.

This short course is equally applicable to general practitioners and specialists. The morning hours are devoted to purely professional subjects selected by the student officers. The afternoon hours pertain solely to medico-military subjects and the evening hours are covered in a lyceum course of general interest.

Application for this course of inactive duty training should be made either to the Director of the Mayo Foundation, Rochester, Minnesota, or to the Corps Area Surgeon, Seventh Corps Area, Omaha, Nebraska. Applications should

state the character of the work the candidate desires to follow in the morning hours. All student officers are expected to attend and to participate in the afternoon and evening sessions. Each applicant should fully understand that the invitation to accept this course of study without charge is extended by the Mayo Clinic; that the project is without expense to the Government, and 200 hours credit will be given to those who take and complete the course.

EDITORIAL COMMENT

Six physicians, all members of the Kansas Medical Society, are the candidates of their respective parties for election to the Senate or House of Representatives.

Albert Eugene Bulson, M.D., editor of the Journal of the Indiana State Medical Association for the past more than 24 years, died at his home in Fort Wayne, on July 17, 1932.

Montague Cleeves, M.D., of La Crescenta, California, reports a case of fatal poisoning in a boy 10 years of age following the consumption of a box of "Exlax" tablets, mistaken for candy. (J.A.M.A., Aug. 20, p. 654.)

The Aid Association of the Philadelphia County Medical Society is establishing a special perpetual fund in honor of Dr. John B. Deaver, only the income of which will be used to afford aid to needy physicians and their families.

Members of the Kansas Medical Society are invited to attend the Bone and Radiological Conference to be held September 19-24, 1932, at Johns Hopkins University, under the auspices of the Surgical Pathological Laboratory of Johns Hopkins Hospital.

As a result of a recent ruling by the postoffice department, physicians may now forward specimens to the public health laboratory at Topeka, at parcel post rates. Sufficient postage, however, must be attached to the parcel; otherwise, if the package is received with postage due, it will be refused by the director.

The regular monthly hospital clinic of the Kansas City Southwest Clinical Society will be held Tuesday, September 13, at St. Margaret's Hospital, Kansas City, Kansas. Dr. J. Albert Key, Professor of Orthopedic Surgery, Washington University, St. Louis, guest speaker, will conduct a clinic on arthritis. Doctor Key will also be the guest for the evening session of the Wyandotte County Medical Society, discussing arthritis—experimental and clinical. The evening meeting will be held in the Wyandotte County Court House, a joint meeting of the Wyandotte and Jackson County Medical Societies.

The Kansas Mental Hygiene Society under its new secretary Miss Beatrice Cahn started a membership drive early this month. This society should be of particular interest to the medical profession since it is part of a national movement for the study of mental health and ill health and for the spreading of information regarding the causes of maladjustment and its prevention. Some of the things undertaken by the society are: the publishing of a monthly bulletin; furnishing pamphlets to members; sponsoring meetings for the general public; will have compiled a list of the Psychiatric Clinics in Kansas for the October Bulletin and lastly is adding a small rental library on the latest books in mental hygiene. The society depends entirely upon dues and contributions for its

maintenance. Further information may be obtained by writing to the Secretary at Topeka.

Following a trial which lasted more than three weeks, the U. S. District Court at Baltimore on July 19, upheld the Federal Food and Drug Administration's allegations of the falsity and fraudulency in the labeling of "B. & M. External Remedy," a product of the F. E. Rollins Company, Boston, Mass., the action involved the seizure, in August, 1931, of bottles of the patent medicine. Continued enforcement of the Sherley amendment to the Federal food and drugs act largely depended on the decision in this case, according to W. G. Campbell, Director of Regulatory Work, U. S. Department of Agriculture. The amendment defines as misbranded any drug preparations bearing both false and fraudulent claims for the cure, prevention or mitigation of disease, if the article is shipped in interstate or import trade. "B. & M. External Remedy," a linament composed essentially of water, turpentine, ammonia and eggs, was labeled with remedial claims for such serious diseases as tuberculosis, rheumatism, influenza, bronchitis and pneumonia.

Fall Conference of the Oklahoma City Clinical Society

The third annual fall clinical conference of the Oklahoma City Clinical Society will be held in Oklahoma City October 31, November 1, 2 and 3 with 21 distinguished leaders in the medical and surgical fields as guest lecturers, according to Dr. Henry H. Turner, director of clinics.

Although attendance at conventions and conferences has shown a tendency to slump this year, sponsors of the conference through provision for a greatly enlarged program, expect the 1932 meeting to show an attendance increase. Invitations have been sent 12,000 physicians throughout the middlewest and southwest.

The program, which will include daily general assemblies, 100 hours of post graduate work, two night symposia, daily round table luncheon conferences, scientific and commercial exhibits and an elaborate schedule of entertainment, has been arranged so there will be no confusion among registrants desiring to attend particular courses.

The conference will be operated on a strictly non-profit basis. The registration fee will be $10 and will admit registrants to every event on the four-day conference schedule. Those desiring to make advance reservations for the function should address the director of clinics, 319 Osler Medical Building, Oklahoma City.

The annual clinic dinner, with Dr. E. H. Cary, Dallas, Texas, president of the American Medical Association, as speaker, will be held the second night of the conference. Symposia will be held the first and third nights on "Urology" and "Industrial Surgery," respectively. Dr. Hugh Young, Baltimore, and Dr. LeRoy Sante, St. Louis, will conduct the symposium on "Urology." Dr. E. G. Brackett, Boston, and Dr. Henry H. Kessler, Newark, will conduct the symposium on "Industrial Surgery."

Because of their productiveness in past years, round table luncheon discussions, presided over by guest lecturers, will be extended twenty-five minutes in length this year to last an hour and forty-five minutes.

Complete list of distinguished guests may be found on page xv.

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THE PRESIDENT'S MESSAGE

To the Members of the Kansas Medical Society:

In these blustery days of unsettled minds and highly sensitized nerves, there is an unceasing effort to elucidate a "thoroughly substantiated cause for crime." They have become so numerous, in fact, that one is made to believe there is now a real philosophy for every misdemeanor. Most of these, however, on final analysis will not stand the acid test and terminate in a jungle of words and phrases.

If we may accept the neuron as the primary element of mentality, vision that cell as a blank at birth which develops as duties demand and recognize all responses to and from the same as representing mind, we can approach a study of that elusive phenomenon which represents a scientific route to accomplishment. In recognition of the foregoing, the neuronic response or mind must never be conceived to be in the making but the chief molding of its architecture must occur within the first few years, (perhaps two to six).

A little historical reconnoitering will not come amiss. A century or so ago Rousseau, a French philosopher, followed by Pestalozzi, an Italian, taught a doctrine of initiative thought in our growing youth to promote and help encourage a natural trend or personality.

Dickens' stories and the literature extant of that time emanating from Continental Europe conclusively demonstrates educational methods of that day were of such dictatorial character that some revolutionary change was due. Little more was called to our attention on this feature of education until a new star appeared on the horizon in the character of a philosopher of education in the University of Chicago during the closing days of the last century in the personage of John Dewey, now emeritus professor of Columbia.

Dewey appealed to the educational world and his appeal touched quickly and deeply the home where it soon amalgamated with their vision of life. Child-life and child-guidance took on a new angle, as it at once became conscious that henceforward it was to be its own guide and director. Schools bowed to that dictum and, hence it became the law of our living.

Our crime wave began to be felt immediately after the war. It was found largely in early adult life and became the first harvest of the crops sown by Dewey. I am informed by educators that Dewey's teachings are largely discredited now by educators but the drive was so great and so agreeably accepted in the home, that it will be many years, if ever, before it is eliminated.

Today, the child is a creation of his own desire. His natural inclination is pleasure. Sacrifices are discouraged by parents and accepted by teachers. Discipline has been totally obscured. The youth is often the dictator of the household and I have seen him sway the entire business of the home. At twenty he feels the call of the sex. His life has ever been a relaxation into pleasure. He accepts the duty of family support. Disappointments arise. His bulwarks are not the type to maintain the defense. He fails and seeks more pleasure. This requires finance. The money drawer of a near-by filling station is the best bet and the picture is complete.

But of what interest to the physician? He introduces the new life. He should offer advice in reference to molding its character. The first two years are most important of all. No infant should be permitted to enforce demands by tantrums. Every child should be under humanely but rigid discipline the first 8 years of life. This need not submerge his self conscious determination but promote a wholesome respect for duty and authority. Are we not interested?

Respectfully submitted,

P. S. Mitchell

President, Kansas Medical Society.

Iola, Kansas, August 25, 1932.

THE LABORATORY

Edited by

J. L. LATTIMORE, M.D., Topeka

In the physician's modern office, with its laboratory, the microscope, centrifuge, blood counting apparatus and other equipment, it appears it might be wise to establish a routine procedure the same as the well regulated office now has with the history and physical examination.

It is my opinion there should be a minimum routine established for each new case and that minimum to consist of a urinalysis, blood count and serological test (Wassermann or Kahn). Upon physical examination the physician will determine such other laboratory tests as should be performed: gastric analysis, basal metabolism, sputum examination, blood chemistry or any one or a combination of the numerous laboratory tests.

The office must have some one attached who is capable of doing these tests, or some commercial laboratory service must be available. The average office girl can be taught to do the ordinary routine urinalysis and blood counts and to collect the blood for the serological test.

When Mrs. B calls for an appointment with the physician, it would be wise to have her report at the office an hour before her time to see the physician. The urinalysis and blood count may be done and the report ready, when the history is to be taken; if either of these two show such abnormal findings as to warrant further study, the physician has economized his time and saved the patient extra trips to the office. True, the technician or office girl is not qualified to pass upon the abnormal findings, but she at once knows whether the case is such as to require the reference to one who is more trained in laboratory procedures.

The office girl should direct the patient to bring a freshly collected specimen of urine in a clean bottle, with specific instructions about cleansing of the genitalia. The minimum analysis should consist of tests for albumin, sugar, acetone, bile, indican and a complete microscopical. If sugar is found, a blood sugar should be run. The minimum blood count should be hemoglobin, red count and white count.

Often we physicians are so well acquainted with the patients and see them so frequently there is a tendency to overlook the most ordinary trouble. This is well illustrated by two cases I have seen within the past few months. Mrs. C went to the hospital for an operation. During the routine urinalysis a heavy sugar reaction was obtained. The physician was greatly upset and stated he examined the urine just recently, but his records showed it was three months previous. Another patient under constant treatment for two months was found to have 1,500,000 red cells. No previous blood count had been made. These two cases are given merely to stress the point of repeated examinations and, further, we should not know our patients so well that we do not give them a thorough physical examination.

About the worst thing I know of, however, is a physician who has some laboratory tests, or x-ray pictures made, just to make an impression on the patient; yet we see this done frequently. I do not refer to the physician who is having a test made to exclude a certain condition, yet expecting a negative report.

The establishment of routine work in any office is dependent upon organization; whether it be bookkeeping, history taking, physical examination, laboratory work or treatment. We need to turn the microscope upon ourselves and see if "I" am organized, if I have in mind definitely every detail I desire to develop in this history; if my physical examination covers every detail, and whether my office girl knows exactly what I expect of her.

My idea in this article is to attempt to induce the physician to establish a routine procedure, not only in laboratory work but in the conduct of his office.

RECENT MEDICAAL LITERATURE

Edited by
WILLIAM C. MENNINGER. M.D., Topeka

CHOREA GRAVIDARUM

A statistical study of 951 collected cases, 846 from the literature and 105 previously unreported (concluded).

The paper is a statistical study based on an analysis of the available data of 951 choreic pregnancies occurring in 797 persons, much the largest collection of cases thus far assembled. One case was personally observed by the authors, and the remainder were collected from literature and the medium of questionnaires sent to more than 500 American obstetricians. The disease is very rare: In 270,825 obstetrical admissions from Europe, America and Australia, the incidence was 1 case in 2,275 pregnancies; in 115,554 similar admissions in the United States, the incidence was 1 case in 3,501, which undoubtedly gives an exaggerated idea of its frequency here, since 170 obstetricians replying to the questionnaire, 113 had never seen a case. This study has led to the definite conclusion that the chorea occurring in pregnancy is identically the same disease as Sydenham's chorea in adolescents, modified slightly, in certain respects, by its association with pregnancy and the following reasons are given for this conclusion: (1) Women attacked are predominately in the youngest age group of sexual maturity and are mostly primiparae. (2) More than half give a history of a previous attack of an ordinary chorea, more than one-third of them of a previous attack of rheumatism, more than one-fourth of them have had both diseases previously, and in about 1 case in 20 there is a double complication of acute rheumatic fever and chorea in the same pregnancy. (3) The statistics of Allard from the Baudelocque Clinic show that 25 per cent of women giving a history of adolescent chorea have a recurrence of the disease in subsequent pregnancies. (4) The mortality in the group of cases with previous history of chorea is 7.3 per cent; with a previous history of rheumatism, 7.4 per cent; with a history of both diseases previously, 6.4 per cent. In the groups giving the opposite history the rates are 18, 13.5 and 19 per cent, respectively. (5) There is evidence of heart disease in about one third of the cases, and of cardiac pathology in 87 per cent of those coming to autopsy. (6) There is as much histopathologic evidence in the brain favoring the identity of the two conditions as there is opposed to this view, and there can be no question that in both, the brunt of the attack is borne by the corpus striatum. (7) The tendency of the disease to greater severity and a more prolonged course when complicating pregnancy would be expected, *a priori*, and is in line with the behavior of other acute or chronic infectious processes under the same circumstances. (8) The symptoms and usual complications are identical. The best treatment for the chorea theoretically from the standpoint of results obtained consist of "rest, seclusion, careful feeding and gentle discipline" (Wall and Andrews). Nerve sedatives and morphine may be used, but sparingly and with great discretion. In the mild cases there is no reason for therapeutic abortion. In severe cases the statistical evidence fails to show better results with intervention than without; in fact, the reverse is true.

Prentiss Wilson, M.D., and Alec A. Preece, M.D.: Archives of Internal Medicine, 49:671-698, April, 1932.

CUTANEOUS MANIFESTATIONS OF SYSTEMIC DISEASE

Wile, from his studies, is convinced that lymphadenoses are reflected in three different ways. First, and perhaps more rarely, one may find in the incidence of lymphadenotic blood pictures, the cutaneous expressions as infiltrations and tumors, together with hyperpigmentation. These are true metastic lesions. Second, one finds pictures in which the cutaneous lymphadenotic infiltrations antedate the chronic involvement of the blood and lymph glands. In this group are found large numbers of cases of exfoliative dermatitis of great chronicity, as well as isolated tumors and infiltrations. The third group includes particularly scaly erythrodermas and occasionally also localized infiltrations in which transitory deviation from the normal are found in

the blood stream, together with characteristic hyperlastic changes in lymph nodes. The group of lymphoblastomas illustrates admirably the cutaneous manifestations of systemic disease. They represent a very small although important group which serve merely as a text upon which to elaborate the theme under discussion.

Cutaneous Manifestations of Systemic Disease: Udo J. Wile, M.D.: Annals of Internal Medicine: 5:1103-1112, March, 1932.

DOES LIVER THERAPY BENEFIT THE DIABETIC?

Sevringhaus reports a study of diabetics, in which an attempt is made to replace the insulin with "liver mixture," but only in one instance was there any improvement. Next a trial was made by mixing insulin in a solution of the liver and blood extracts only and there was no reason to conclude on this experiment that the insulin given by mouth to this patient had any effect. The writer failed to find evidence there is antidiabetic activity in the "liver mixture" or in the alcoholic extracts of liver and blood, liver alone, or in a press juice prepared from horse liver. A dried powder of the heat precipitate from aqueous liver extract was tried by the methods similar to those used by Blotner and Murphy, but without any favorable result. No explanation is offered for the failure to confirm with the works of these authors, but the results reported agree with the negative results of many other writers.

(Does Liver Therapy Benefit the Diabetic? Sevringhaus, Elmer L., Annals of Internal Medicine, 5:1387-1390, May, 1932.)

EARLY MANIFESTATIONS OF RHEUMATIC INFECTIONS IN YOUNG CHILDREN

McLean presents a study of 258 patients with early manifestations of rheumatic infection, 126 were girls and 132 boys. One-third of the total number of cases were first seen with manifestations of the infection between the ages of 5 and 7 years. Of the children, 203, or 80 per cent, gave histories of repeated attacks of tonsillitis; 78 per cent had soft blowing systolic heart murmers. One hundred seventy-five had pains in the legs, joints, or stiffness of the limbs. Seventy-one, or 28 per cent, gave histories of digestive disturbances, characterized by paroxysmal abdominal pains. In 70, or 27 per cent, there were signs and symptoms of a mild chorea. In 126 patients, the tonsils and adenoids were thought to be the foci of infection. Of 49 cases in which teeth were apparently foci, or one of the foci of infection, 26 or 53 per cent, had heart murmurs; 29, or 59 per cent, had signs of chorea. In 177 patients the average hemoglobin reading was 67 per cent. The author finds the incidence and severity of respiratory infections, during the first five years of life, are apparently no greater in the rheumatic than in the nonrheumatic child. Patients in whom the results from tonsillectomy and adenoidectomy were disappointing, almost invariably developed signs and symptoms of suggestive of a paranasal sinusitis. The author concludes that every child with early manifestations of rheumatic infections is a potential cardiac patient and should be managed accordingly.

(Early Manifestation of Rheumatic Infections in Young Children, McClean, C. C.; Annals of Internal Medicine: 5:1357-1367, May, 1932.)

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THE PHYSICIAN'S LIBRARY

The Purchase of Medical Care Through Fixed Periodic Payment, by Pierce Williams of the Staff of the National Bureau of Economic Research, Inc., 320 pages, cloth-bound, $3.00. National Bureau of Economic Research, Inc., New York.

Is insurance the solution of the problem of providing medical care to the mass of the American people at a cost they can afford? What are the prospects for the enactment of compulsory sickness insurance laws by the different states of the Union? What are the potentialities of experiments now under way by group clinics and community hospitals in making medical and hospital insurance available to the rank and file of the American population? Do the "company doctor" and "contract hospital" systems of medical service to industrial employees provide satisfactory foundations on which to build a general system of medical and hospital insurance for the American people? Is the present attitude of American medical practitioners towards "contract" practice an obstacle to the extension of sickness insurance?

The above are some of the fundamental questions discussed in this comprehensive investigation of the present extent of medical and hospital insurance in the United States. According to the publishers: "This book is essential to an understanding of the factors which are basic in applying the principle of insurance to the provision of medical care throughout the United States."—E.G.B.

An Introduction to Dermatology, by Richard L. Sutton, M.D., Sc.D., L.L.D., F.R.S. (Edin) Professor of Diseases of the Skin, University of Kansas School of Medicine, and Richard L. Sutton, Jr., A.M., M.D., Visiting Dermatologist to the Kansas City General Hospital. Cloth. 568 pages. $5.00. C. V. Mosby Company, St. Louis.

This book should have an especial appeal to the student. Sutton and Sutton have compiled a volume that is concise and yet not too brief. There are 183 illustrations, an invaluable aid in the study of skin diseases and woefully lacking in many Introductions to Dermatology.

The discourse on syphilis is especially complete, and the outline for antisyphilitic therapy might well be used as a basis by all who undertake the treatment of this disease.—E.H.D.

Manual of Clinical and Laboratory Technic: By Hiram B. Weiss, A.B., M.D., F.A.C.P., Associate Professor of Medicine, College of Medicine, University of Cincinnati, Cincinnati, Ohio; and Raphael Isaacs, A.M., M.D., F.A.C.P., Associate Professor of Medicine, Assistant Director of the Thomas Henry Simpson Memorial Institute for Medical Research, University of Michigan, Ann Arbor, Mich. Fourth Edition, Reset. 117 pages, with Diet Table. Philadelphia and London: W. B. Saunders Company, 1932. Cloth, $1.50 net.

This small manual is very compact and is a valuable edition for those who have had laboratory training. No explanations or drawings are given and the editor intends this manual to be used in establishing a routine physical and laboratory technique. It would be wise for physicians and hospitals to adopt such a manual as their guide for the routine examination. A very valuable table is given, listing all common foods with their protein, fat and carbohydrate content. Briefly, but thoroughly, the authors cover such subjects as preparation of the patient for gastro-intestinal x-ray examination, method of taking blood pressure, intravenous injection, vaccination, susceptibility tests, as well as the technique for laboratory tests and a rather comprehensive outline for routine physical examinations.—J.L.L.

A Medical Formulary, by E. Quin Thornton, M.D., Assistant Professor of Materia Medica in the Jefferson Medical College, Philadelphia. Thirteenth edition, thoroughly revised, pocket size, 352 pages, limp binding. Lea and Febiger, Philadelphia. Price $2.50, net. 1932.

In this thoroughly revised thirteenth edition which contains more than 2,000 prescriptions with indications for their use, many new remedies which have been found to be of real worth have been included. This work has long justified its usefulness in a broad and legitimate field. It serves as a check to the best informed physician lest he overlook an appropriate drug and it enables the young physician the better to perform his duty to his patient and to himself. It is not the author's idea that the book is intended as a substitute for individual thought. The practitioner's diagnosis must give him the character, quantity, combination, dose and method of administering a remedy. It will, however, discourage the use of proprietary, secret and patented preparations by members of the profession.—E.G.B.

Surgical Clinics of North America. (Issued serially one number every other month.) Volume 12 No. 2, (New York Number—April, 1932) 306 pages with 84 illustrations. Per Clinic year (February, 1932, to December, 1932). Paper, $12.00; Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1932.

In this New York number are a variety of most interesting cases, many of which were presented before the Clinical Congress of Surgeons. Dr. Howard Lilienthal describes a closure of an unusual chest wall defect having a bronchial fistula. Dr. Allen Whipple discusses results of short circuiting procedures for common duct obstruction and advises a sidetracking procedure in the inoperable carcinomas of the pancreas as a means of relieving the complicating pruritis. Dr. John F. Erdman takes up preoperative and post-operative care and also presents two operative cases a hysterectomy for fibroid tumor and an oophorectomy. Dr. Edwin Beers has several interesting urological cases. Dr. James M. Hitzrott discusses fractures at the lower end of the humerus in adults and advises early ac-

tive motion, stating in this location it does not seem to produce excessive callus and therefore better function as an end result, is obtained. Dr. Robert T. Frank describes some biological endocrine tests and illustrates their application with clinical cases. Dr. Charles E. Farr shows three cases of undescended testes and their operative treatment. Dr. J. Eastman Sheehan discusses the treatment of keloids and shows the operative correction in a case of unilateral facial paralysis. Dr. J. William Hunton discusses the selection of patients for operation with gastric and duodenal ulcers and he notes that too early operative work generally results unsatisfactorily. He states on the other hand that cases with associated chronic pancreatitis demand immediate operation. Dr. Carl G. Burdick shows the repair of double direct hernia with living fascial sutures. A symposium on liver and gall bladder diseases of extreme interest is given by Dr. Charles Gordon Heyd, Dr. John A. Killian, Dr. Ward J. McNeal and Dr. Louis R. Davidson. Another symposium on diseases of the thyroid is given by Dr. Charles Gordon Heyd, Dr. Ralph R. Moolton, Dr. James J. Fleming, Dr. Reynold E. Church and Dr. Edward V. Denneen. Many other very instructive clinics are also given in this number.—M.B.M.

COUNTY SOCIETY NEWS

DOUGLAS COUNTY MEDICAL SOCIETY

The annual social meeting of the Douglas County Medical Society was held at the Lawrence Country Club August 4, 1932. Physician's wives and the members of the local nurses association were present. There were also a number of guests from adjoining counties, including five from Ottawa.

Following the dinner, Prof. Earnest Boyce, Director of Sanitation of the State Board of Health and Director of Water and Sanitation Laboratory at the University of Kansas, gave an illustrated lecture on "Water Sanitation and Methods of Testing and Treating City Water." Professor Boyce has just finished a year's study at Harvard on these problems and has recently made a survey of a large number of eastern municipal water plants. His subject matter was exceedingly interesting and exceptionally well presented.

Lyle S. Powell, M.D., Secretary.

FRANKLIN COUNTY MEDICAL SOCIETY

The July meeting of the Franklin County Medical Society which was held at Ottawa on the 27th was somewhat unique. An invitation was extended in the name of the society to 400 members of the four personal service groups in Allen, Anderson, Miami, Johnson, Douglas, Lyon, Shawnee, Osage and Coffey counties, in addition to those in Franklin County. Each county was represented, and 170 members of the four groups were present.

Much in common was brought out. Dr. J. D. Colt, Sr., president-elect of the Kansas Medical Society in a masterly short address brought home to the meeting much that was relevant to the work of the physician; his preparation and education for his life work; hopes, aims and ambitions.

Dr. Fred Richmond, secretary of the Kansas State Dental Association, thoughtfully reviewed the relation of the dentist to the physician.

The contribution of A. H. King, secretary of the Kansas State Board of Pharmacy, emphasized the very intimate relation of the druggist to each of the two foregoing professions.

Paul Coon, secretary of the Kansas State Funeral Directors Association, did not fail to emphasize the old story that they were followers of the medical profession. The toastmaster of the evening when introducing this feature of the program told us that the man who had been chosen to fill in for the morticians was the funny man of their group, and that he had gotten on the program for that reason. The chairman assured the audience we expected our morticians to be funny. They got what they expected, the speaker closing this part of the program with a round of levity that spiced the undertaking.

Dr. Lyle S. Powell, secretary of the Douglas County Medical Society, gave an interesting thirty minutes from his moving pictures which he took while on his trip to European clinics.

For the program, the president of the Franklin County Medical Society, Dr. John B. Davis, yielded to Dr. Paul Stafford Mitchell, president of the state society, who opened the post-prandal festivities with some very appropriate remarks stressing that while such venture was novel it was nevertheless commendable. The toastmaster who is a physician and a registered pharmacist made quite a hit with his introduction of A. H. King, for the druggists. He paid tribute to the druggists' fidelity to his customer, by his careful attention to infinite detail of the profession and business, postage stamps, petroleums, tarwater, turpentine, bathing caps, bedpans, etc. He brought out the close relationship of the work of the pharmacist of the present to the labors of the apthecary of the golden age of Elizabethian medicine, particularly linking the sources of the remedies that were official in the British Pharmacopea at the close of the 17th century to those that are prescribed by the physician and filled into the medicines of today: pepsin, pancreatin, liver extract, pituitrin, antitoxin, vaccines, serums, insulin, gonads, hormones. From the hog, cow, sheep guineapig, rabbit, horse, goat and turtle, not to forget antivenin from the lowly viper.

The B. P. at the close of the period mentioned made official such preparations as: "Sal Corveii," salt of crows; "Vinum Viparium," wine of vipers and oil of vipers; "Pulvis Ethiopicus," black powder made from incinerated toads and good for "smallpox; dropsie; a wonderful cure for cancers; it absorbs the malignancy" and "is a certain help for those that are about to die," and "Oleum Kanasium," oil of frogs.

The mode of procedure was outlined for the apothecary in filling the doctor's prescriptions for these delectable remedies that were official, at least, if not standardized as they are today; nor so easy to dispense as their decedents found in the U. S. P. and in the prescriptions and on the shelves of these two professions in this first third of the 20th century.

The evening's entertainment ended with a proposition from the state secretary that the event be made an annual affair.

J. F. Barr, M.D., Secretary.

DEATH NOTICES

Samuel H. Blakely, Severance, aged 82, died July 23, 1932, at the Methodist Home for the Aged, Topeka, of senility. He graduated from Louisville Medical College in 1875. He was not a member of the Society.

Faye Donovon, Medicine Lodge, aged 25, died at Stormont Hospital, Topeka, July 31, 1932, of homicide by gunshot received in Wabaunsee County while traveling on the public highway in an automobile. He graduated from Rush Medical College, Chicago, this year and at the time of his death was en route to Cook County Hospital, Chicago, to begin duties as an intern. He was not a member of the Society.

Incidence and Variety of Heart Disease in School Children of San Francisco

From a study of 600 cases of goiter, Arnold S. Jackson, Madison, Wis. (J.A.M.A., Dec. 26, 1931), draws the following conclusions: The blood picture in hyperthyroidism does not vary essentially from that in the normal person. The differential blood count in hyperthyroidism is not of diagnostic and prognostic significance. There is not a definite relationship between the blood picture and the basal metabolic rate. The lymphocyte count is not varied by an increase or a decrease in metabolism. The blood count is not influenced by the severity of the disease, considering metabolism and weight loss as paramount factors. A secondary anemia is not typical of hyperthyroidism. A leukopenia is not characteristic of hyperthyroidism. Sex and age do not influence the blood picture in toxic goiter. In spite of clinical improvement, no appreciable change was observed in the blood count

following the use of iodine in hyperthyroidism. The only appreciable change in the differential blood count in goiter was observed following thyroidectomy for exophthalmic goiter. An increase in the polymorphonuclear count and a decrease in the lymphocyte count occurred. The author does not believe that the blood picture in hyperthyroidism is of any practical clinical importance.

TRUTH ABOUT MEDICINES

New and Nonofficial Remedies

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Suprarenin Solution 1:1,000—Each 1 cc. contains suprarenin bitartrate equivalent to suprarenin (New and Nonofficial Remedies, 1932, p. 187) 0.001 Gm. (1/65 grain). H. A. Metz Laboratories, Inc.. New York.

Ampules Suprarenin Solution.—Each 1 cc. contains suprarenin bitartrate equivalent to suprarenin (New and Nonofficial Remedies, 1932, p. 187) 0.001 Gm. (1/65 grain). H. A. Metz Laboratories, Inc., New York. (Jour. A.M.A., June 11, 1932, p. 2062).

FOODS

The following products have been accepted by the Committee on Foods of the American Medical Association for inclusion in Accepted Foods:

Chilocco Brand Corn Syrup with Cane Flavor (D. B. Scully Syrup Company, Chicago).—A table syrup with a corn syrup base (85 per cent) and refiners' syrup (15 per cent). It is claimed to be suitable for cooking, baking and table use, and as a carbohydrate supplement for milk modification for infant feeding.

Portola Sadines (Pilchards) (K. Hovden Company, Monterey, Calif.).—Canned steam grilled sardines (Clupea caerulius, blue sardines) with tomato sauce, salt and olive oil or curry sauce, salt and olive oil. These sardines are claimed to be a dietary source of iodine.

Mary Jane Bread (Lowenberg Bakery, Ottumwa, Iowa).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality. (Jour. A.M.A., June 4, 1932, p. 1991).

Purity Fine Bread (Purity Baking Company, Pana, Ill.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality.

Long's Climax Best Patent Flour (Phosphate Added), Long's Extra Fancy Cake Flour (Phosphate Added) (Climax Roller Mills, Shelbyville, Ky.).—A "short patent" soft winter wheat all-purpose family flour admixed with 0.5 per cent calcium acid phosphate; bleached and "matured."

SMACO (400) Maltose and Dextrins (Spray Dried) (S.M.A. Corporation, Cleveland).—This is essentially a mixture of approximately equal parts of maltose and dextrins. It is claimed to be especially prepared for use as a carbohydrate supplement for the modification of milk for infant feeding.

Toddy (Toddy, Incorporated, Rochester, N. Y.).—A powdered mixture of sucrose, malt extract, skim milk and cocoa; packed in carbon dioxide atmosphere in sealed tins. It is claimed to be especially intended for the preparation of table beverages with milk, and to enhance the food value and flavor of milk.

F.C.B. Brand Golden Syrup (D. B. Scully Syrup Company, Chicago).—This is a corn syrup flavored with refiners' syrup. It is claimed to be a syrup for cooking, baking and table use, and to be suitable as a carbohydrate supplement for milk modification for infant feeding.

Boneless Peeled Portola Sardines (In Pure Olive Oil) (K. Hovden Company, Monterey, Calif.).—Cooked, peeled and boneless Pilchard Sardines (Clupea caeruleus, blue sardines) packed in olive oil in tins. These sardines are claimed to be a dietary source of iodine.

Stroehmann's Kew Bee Bread (Stroehmann Brothers Company, Williamsport, Pa.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality. (Jour. A.M.A., June 18, 1932. p. 2210).

Recolac (Mead Johnson & Co., Evansville, Ind.).—A food for infants, containing soluble casein (potassium caseinate), lactalbumin, lactose, milk salts, dextrins, maltose, salts, extracts of yeast and wheat embryo, oleo, coconut and cod liver oils; contains vitamins A, B, D and G. It is claimed that Recolac reliquified to normal dilution of 1 ounce of powder + 7 ounces of water forms a well balanced food for infants who are deprived of breast milk, and may be used as a complemental or supplemental feeding.

Purity 2 Loaves in 1 Bread (Purity Baking Company, Decatur and Pana, Ill.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality.

Nicolet Brand Golden Syrup (D. B. Scully Syrup Company, Chicago).—A table syrup having a corn syrup base (85 per cent) with refiners' syrup (15 per cent). It is claimed to be a syrup for cooking, baking and table use, and suitable as a carbohydrate supplement for milk modification for infant feeding.

Loudon Brand Tomato Juice (The Loudon Packing Company, Terre Haute, Ind.).—Canned tomato juice which retains in large measure the vitamin content of the raw juice used. It contains a small amount of added salt. It is claimed to be a good source of vitamins A and B and an excellent source of vitamin C.

Helms Olympic White Bread and Helms Home Like Bread (Helms Bakeries, Ltd., Los Angeles).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality.

SMACO (204) Concentrated Liquid Half-Skimmed Milk (Sterilized) (S.M.A. Corporation, Cleveland).—Evaporated half-skimmed milk containing half as much milk fat as ordinary evaporated milk. It is claimed to be intended especially for infant feeding for use wherever an evaporated partially skimmed milk is indicated.

Portage Brand Golden Corn Syrup (D. B. Scully Company, Chicago).—A table syrup having a corn syrup base (85 per cent) with refiners' syrup (15 per cent). It is claimed to be a syrup for cooking, baking and table use, and suitable as a carbohydrate supplement for milk modification for infant feeding. (Jour. A.M.A., June 25, 1932, p. 2288).

PROPAGANDA FOR REFORM

The Zifferblatt Hay Fever Treatment.—In May, a Philadelphia newspaper published an article with the headlines: "Hay Fever Staved by Discovery Here. New Inhalant Immunizing Patient to Ravages of Disease Announced." The article opened with the statement that Philadelphia, long noted as a center of medical science, had added another triumph to her achievements by the discovery by one of her research workers, Dr. Arnold H. Zifferblatt, of "a 100 per cent successful treatment for hay and grass fever." Summed up, the situation seems to be: that Dr. Zifferblatt and his associates claim to have de-

veloped a treatment for hay fever that will give permanent relief for the season; (2) that no information regarding this treatment has been published in medical literature, but the widest publicity has been given it through the daily press; (3) that the composition of the drugs used and the methods of administering them are admittedly secret; (4) that at least a proportion of the public is being charged for this secret treatment, which is admittedly in the experimental stage. (J.A.M.A.)

Scot Tissue.—The urge to overdo in advertising is not better exemplified than in the recent exploitation of Scot Tissue toilet paper. Scot Tissue has recently been advertised as being "chemically pure"—though for what reason it should be so pure is not obvious. It is defined as being "The absorbent soft white toilet tissue . . . medically safe . . . approved by doctors, hospitals and health authorities." In recent months the firm has reverted to "Science"—with a capital S—to aid it in its efforts to inform the public of the absolute safety of these absorbent rectal-health tissues. The advertising agency of the Scott Paper Company, evidently realizing the possibilities of chemical examination, set forth to have "research" done in a "nationally-known laboratory." In advertisements giving the results of this "investigation" is the warning: "Science finds Harmful Acids . . . Mercury . . . Arsenic in many brands of Toilet Tissue." "660 Brands Tested . . . 2 out of 3 found 'Unsafe . . . unfit to use.'" "Use only tissues you know meet the standards which physicians approve." The Scott concern has dragged in the good name of medicine in an attempt to make the public believe that "medical science" had investigated the toilet paper problem and had found certain samples to contain asenic, mercury and other substances "in sufficient quantities to cause rectal illness." Neither independent research nor the Scott concern's own investigation have proved any such thing. (Jour. A.M.A., July 16, 1932, p. 241).

Strychnine Poisoning.—Strychnine poisoning is rather frequent, and its occurrence is rendered dramatic by the dreadful agony of its course and the commonly fatal termination. Most of the sources of poisoning could be easily avoided especially in the tragic cases of infants. Moreover, the agony of the developed poisoning can be completely eliminated and nearly all fatalities could probably be prevented by proper treatment. The most prolific source of strychnine poisoning is chocolate or sugar coated household laxative or "tonic" pills. The dreadful slaughter from household "remedies" is the more regrettable since it has not been proved that the strychnine in laxative pills serves any useful purpose. Some restriction of the promiscuous sale of this violet poison in the guise of supposedly harmless household remedies is necessary and the board of trustees of the American Medical Association are considering the question of action along these lines. In the treatment of strychnine poisoning, the barbituric acid derivatives have opened a new chapter. They do not differ from the older hypnotics in principle but rather in the combination of high efficiency with relatively high safety, and by the fact that they may be administered intravenously in emergencies such as strychnine poisoning. (Jour. A.M.A., June 4, 1932, p. 1992).

Antiopin Not Acceptable for N.N.R.—The Council on Pharmacy and Chemistry reports that Antiopin, marketed in the form of tablets, is claimed to be "an efficacious remedy for morphine and cocaine poisoning," and that alcoholism and nicotine poisoning can be cured with it. Antiopin is manufactured in Japan and is claimed to be a mixture of "Euphrasin," quinine hydrochloride, caffeine, lactose, sucrose and acacia. "Euphrasin" is stated to consist of "extract from 'Kofuku' Sea-ear," quinine hydrochloride, and urea to which hydrochloride acid and alcohol are added, and the mixture heated and condensed. From the indefinite statement of composition it appears that Antiopin is claimed to contain small quantities of an extract prepared from the entrails of a certain kind of "ear shell," in admixture with quinine hydrochloride, caffeine and urea. The Council found Antiopin unacceptable for New and Nonofficial Remedies because the preparation is a mixture of indefinite composition, offered under a nondescriptive, therapeutically suggestive name and marketed in a way that may foster the drug habit. (Jour. A.M.A., June 11, 1932, p. 2062).

Abortifacient Pastes.—"Interruptin," devised by a Berlin pharmacist, Heiser, and "Provocol," the formula of Dr. J. H. Leunbach, a gynecologist of Copenhagen, are exploited as simple means of performing therapeutic abortions. The Heiser product appears to be secret in composition. Leunbach has published the formula of his paste. This paste, known in Europe as Provocol, is now on the American market under the name "Leunbach' Paste." It is claimed that the method can be readily used in the physician's office and the patient return to her home immediately without danger. The claim is made that within thirty-six hours after the injection the uterus generally will empty itself with a moderate amount of bleeding and with little pain, and in a manner that is even smoother than a spontaneous abortion. The preparation Leunbach' Paste, now on the American market, is put out by the Vauka Chemical Works, Inc., of Newark, N. J. Foreign medical literature indicates that ideal results from the use of such pastes are obtainable in only about one-fourth of the cases. Within a comparatively short period of time there have recently appeared in German literature reports of twenty-five deaths resulting from the use of these abortifacient pastes. Physicians in this country are now receiving circulars extolling the alleged virtues of Leunbach' Paste. The physician is told that the paste is "indicated in spontaneous abortions with retention of the entire, or parts, of the ovum." Such a statement may easily lead to fatalities, the pastes being most dangerous when used in cases where an abortion is in progress and bleeding is taking place. (Jour. A.M.A., June 11, 1932, p. 2155).

Examination of Ethylene for Anesthesia.—V.—When ethylene first came on the market, the Council on Pharmacy and Chemistry requested the A.M.A. Chemical Laboratory to establish standards for this substance. Not only has the Laboratory established suitable standards but, because of the nonofficial status of the gas, frequent examinations have been made of the market supply of ethylene. Recently there was submitted to the Council a new brand of ethylene. It was deemed advisable at the same time this product was examined chemically to purchase market supplies of the other products described in New and Nonofficial Remedies. Accordingly, tanks of ethylene for anesthesia were purchased both in Chicago and in Columbus, Ohio. The following brands were examined by the A.M.A. Chemical Laboratory and found to comply in all respects with requirements given in New and Nonofficial Remedies for ethylene for anesthesia: Cheney, C.L.P., Lennox, Puritan, Walco. (Jour. A.M.A., June 18, 1932, p. 2209).

Triethanolamine.—The Council on Pharmacy and Chemistry in a preliminary report on Triethanolamine states that according to Marlin T.—R. Maynard Triethanolamine is an excellent emulsificant with antiseptic and penetrating power, and when added to certain preparations used on the scalp, for example, oil of cade, it makes them more easily removable. Triethanolamine is supplied by the Carbide and Car-

bon Corporation, New York (unit of Union Carbide and Carbon Corporation), which firm has supplied a specimen of the product to the Council, and a statement of the amount of mono-ethanolamine, diethanolamine and triethanolamine contained in the product. Since triethanolamine gives promise of being a desirable addition to the armamentarium of the dermatologist, the Council directed publication of a preliminary report in the hope that this might encourage work which shall bring out confirmation of the reputed advantages of the drug. (Jour. A.M.A., June 18, 1932, p. 2209).

Medicated Corn Plasters.—The Council on Pharmacy and Chemistry reports that so-called medicated corn plasters which are offered for general use by the public contain in general a caustic agent such as salicylic acid as their potent component. The Council feels that the indiscriminate use of corn plasters containing salicylic acid by the public is not without some danger. The public is too prone to consider any lesion on the foot, especially if it is somewhat indurated, as a corn. All types of pathologic conditions on the feet should be seen by the physician and the treatment for these conditions directed by the physician. The Council considers medicated corn plasters to have the status of a drug the indiscriminate and ill advised use of which by the public should not be encouraged. (Jour. A.M.A., June 18, 1932, p. 2209).

Holsum Milk Bread Sliced and Unsliced Not Acceptable.—The Committee on Foods reports that "Holsum Milk Bread" (The Miller-Patton Baking Company, Rockford, Ill.) is a white bread. The name "Milk Bread" for this bread is false and misleading, and especially so in view of the statement of conformity to the government standard which appears on the label. The label guarantees the bread to contain "milk" and "malt," which is incorrect in that "skim milk" and "malt extract" are ingredients. The manufacturer when informed of these opinions expressed himself as unwilling to change the name and incorrect label statements. This bread therefore cannot be listed among the Committee's accepted foods. (Jour. A.M.A., June 18, 1932, p. 2211).

"Plezol Potato Bread" Not Acceptable.—The Committee on Foods reports that "Plezol Potato Bread" (Frank Baker Bread Company, Lima, Ohio) is a white bread prepared by the sponge dough method. The formula submitted for this bread brings it within the terms of the definition for "white bread." It has no physical, flavor or nutritional characteristics differing essentially from the usual white bread or suggestive of a bread warranting the name "potato bread." The name is considered inappropriate for the bread, misinformative and misleading. The manufacturer when informed of this opinion expressed himself as unwilling to change the name. This bread therefore cannot be listed among the Committee's accepted foods. (Jour. A.M.A., June 18, 1932, p. 2211).

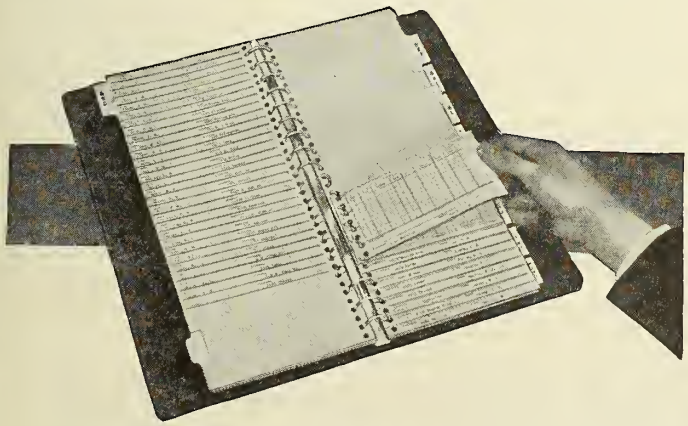
New Life Corporation Fraud.—The New Life Corporation of Hot Springs, Ark., sometimes called New Life, Inc., sold an alleged sexual rejuvenating nostrum known as "New Life Gland Capsules." After investigation by the postal authorities, the business was declared fraudulent and denied the use of the mails. (Jour. A.M.A., June 18, 1932, p. 2230).

Adulterated or Misbranded Pharmaceuticals.—Notice of Judgment were issued between January and June, 1931, inclusive by the Food and Drug Administration of the United States Department of Agriculture against the following pharmaceutical products that were found adulterated or misbranded: Aconite Tincture (Tilden Company); Aletris Root (Hamilton-Bacon-Hamilton Company); Antipyrine Tablets (George A. Breon and Company); Aspirin (J. R. Watkins Company; McCormick and Company); Bacillus Acidophilus Cultures (H. K. Mulford Company); Bacillus Bulgaricus Culture A (Ferment Company); Barbital Tablets (George A. Breon and Company); Beef, Iron and Wine (Devore Manufacturing Company); Belladonna Extract (Frederick Stearns and Company); Belladonna Fluid Extract (Tilden Company; American Laboratories, Inc.); Belladonna Tincture (American Laboratories, Inc.); Benzoin Tincture (Edward I. Lowell); Buchu, Compound Elixir (Standard Drug Company); Calisaya Alkaloids Elixir (Zemmer Company); Calisaya Elixir (Standard Drug Company); Calomel Tablets (George A. Breon and Company); Camphorated Oil (Tilden Company); Camphor Spirits (Southern Chemical Company, Standard Drug Company); Chloroform (Samson Rosenblatt); Cinchona Powdered Extract (Frederick Stearns and Company); Cinchona Tincture (Tilden Company; Frederick Stearns and Company; American Laboratories, Inc.; Standard Drug Company); Cinchophen (Zemmer Company); Codeine Sulphate Tablets (P. J. Noyes Company; C. M. Bundy Company); Colchicum Fluid Extract (Frederick Stearns and Company); Cramp Bark (E. A. Dobbin and Company); Digitalis Tincture (Tilden Company; Brewer and Company, Inc.); Ergot Fluid Extract (Burrough Bros. Manufacturing Company; American Laboratories, Inc.); Ergot Solution (Tilden Company); Ether (J. T. Baker Chemical Company; Merck and Company, Inc.; Ohio Chemical and Manufacturing Company; American Solvents nad Chemical Corporation; Mallinckrodt Chemical Works; Paficic Chemical Company; Brewer Company; Martin Elias Company); Fowler's Solution Tablets (C. M. Bundy Company); Ginger Fluid Extract (Hub Products Company; American Products Company; Land Drug Company; Queen City Distributing Company; De Lux Packing Company; Savoy Drug and Chemical Company; York Distributing Company; Interstate Drug Company); Magnesium Citrate Solution (Citro-Nesia Company, Inc.); Mercuric Iodide Tablets (George A. Breon and Company); Myrrh (Devkapan-Adenwalla); Niter, Sweet Spirits (Standard Drug Company); Nitroglycerin Tablets (George A. Breon and Company); Nux Vomica Tincture (American Laboratories, Inc.; Standard Drug Company; Brewer and Company, Inc.; P. J. Noyes Company); Opium Tincture (Frederick Stearns and Company); Phenolphthalein Tablets (Tilden Company; Brewer and Company, Inc.); Potassium Bromide Elixir (Brewer and Company, Inc.); Santonin and Calomel Tablets (George A. Breon and Company; P. J. Noyes Company); Sodium Salicylate Elixir (Zemmer Company); Sodium Salicylate Tablets (Brewer and Company, Inc.); Sodium Sulphocarbolate Tablets (George A. Breon and Company); Strychnine Nitrate Tablets (Frederick Stearns and Company); Strychnine Sulphate Tablets (Frederick Stearns and Company; George A. Breon and Company; P. J. Noyes Company); Trional Tablets (George A. Breon and Company). (Jour. A.M.A., June 25, 1932, p. 2305).

Botulism in North Dakota: Report of Outbreak of Thirteen Fatal Cases

Robert W. Allen and A. Walter Ecklund, Bismarck, N. D. (J.A.M.A., Aug. 13, 1932), state that the first recorded outbreak of botulism in North Dakota occurred in June, 1930, at Golva, Golden Valley County, with four fatal cases reported. North Dakota suffered its second reported outbreak of botulism in 1931, which incidentally was the largest out-

break ever to occur in this country in a single community from a single common cause, and occurred within eight months after the outbreak at Golva. A midnight lunch consisting of buns, hot boiled wieners, vegetable salad, light spice cake, light cookies and coffee was served in connection with a party given at a farm home near Grafton, Walsh County, on the evening of Jan. 29, 1931. The salad consisted of diced carrots, peas and cut string beans, served on a lettuce leaf, with whipped cream dressing. The carrots, peas and string beans were from a "batch" home canned the previous season by the so-called cold pack method, a copper wash boiler having been used instead of a pressure cooker. The canning receptacles used were glass jars with both metal and glass caps. The host family had been eating of this "batch" of vegetables during the fall and winter without previous ill effects. A history of disease among the animals or poultry on the farm was not obtainable. Sixteen of the seventeen present partook of the entire lunch, one guest declining to eat the salad because he never ate vegetables in any form; subsequently he did not become ill. Thirteen of the sixteen who ate of the salad afterward became ill and died. The remaining three who ate of the salad and did not subsequently become ill therefrom were intoxicated at the time of eating, had been nauseated and vomited before lunch was served, and vomited again during or just after lunch. "Moon" or "hootch," home-made beer, and wine were the liquors consumed by several who attended the party. It did not enter into the cause of death, however, as five of the victims who died did not take a drink of liquor in any form. The diagnosis of botulism, type A, was confirmed by the University of Chicago laboratory, from a section of the colon of one of the victims. The vegetable mixture of diced carrots, peas and cut string beans served in the salad was without doubt the poisoned food. This is concluded from the elimination of all other possible poisoned food and the suggestive laboratory observations on other similar canned vegetables. On the basis of their observations in this outbreak of botulism the authors present the following recommendations: 1. The proper procedure in home canning of foodstuffs and their preparation before serving should be given the greatest possible publicity. 2. In case of an outbreak of botulism, all individuals known or suspected to have eaten of the poisoned food should receive a preventive dose of botulinus antitoxin, type A and B combined, at the earliest possible moment. 3. As the immediate cause of death in botulism is respiratory paralysis, it would seem feasible that artificial respiration or the use of a respirator should be resorted to in the last measure of treatment in conjunction with the free use of botulinus antitoxin.



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Topeka — Kansas

APPLICATION FOR MEMBERSHIP

To the Officers and Members of the

.....County Medical Society

GENTLEMEN:—I hereby make application for membership in your Society, and, if accepted as a member, I agree to support its Constitution and By-laws, to practice in accordance with the established usages of the profession, and will in no way profess adherence or give my support to any exclusive dogma or school.

1. I was born at.....on the.....day of.....1.....

2. My preliminary education was obtained at.....
(Public schools, high school or college)

.....located at.....from which I
(City and State)

graduated in the year 1.....and received the degree of.....

3. My medical education was obtained at.....
(Name of Medical College)

.....located at.....

from which I graduated in the year 1.....

4. My state certificate was issued.....
(Name of State and date of license under which you are practicing)

5. I have practiced in my present location.....years; and at the following places for the years

named.....
(Name each location and give dates)

.....

6. I hold the following positions:.....
(Give college and hospital positions, insurance companies for which you are the examiner, etc.)

.....

.....

7. Specialty.....

8. Residence.....Street

9. Office. .....Street

10. Office Hours.....

Respectfully, Name.....

P. O.....

County.....

State .....

NOTE.—The above information is primarily for use in the Card Index System of the County and State and for the American Medical Directory.

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ORIGINAL ARTICLES

THE PHYSICIAN'S TESTIMONY*

L. G. Allen, M.D.
Kansas City, Kansas

Anyone who witnesses a number of formal medical consultations will be impressed with the general agreement of the expressed opinions of the physicians of such consultations; as to the diagnosis, treatment and prognosis. There is, as a rule, a general agreement as to the salient clinical features of the case.

In contrast, however, the juror in the box, the judge or commissioner on the bench and certainly the casual observer; hearing perhaps, the same physicians testify for opposing sides of a medico-legal matter, will frequently receive the impression that agreement between doctors of medicine is a gross impossibility.

The above implied premise, together with the general problem of the physician's testimony in personal injury cases, constitutes the excuse for the attempted preparation of this paper. The writer wishes to admit the compliment that, the title at least was assigned and further to state its preparation is a pleasure, for here at last is a subject in the discussion of which, one can quote and cite authority, with at least the expressed feeling of finality.

The subject matter which follows is largely quoted from the references and sources mentioned and from personal requested communications from the following legal minds. Judges of District Court of Wyandotte County: E. L. Fisher, W. H. McCamish, C. A. Miller, C. C. Glandon. Commissioner of Workmen's Compensation of Kansas: G. Clay Baker. Attorney for State Highway Commission of Kansas: Wint Smith. Defense Attorneys: M. L. Alden and A. L. Berger. Plaintiff Attorneys: J. H. Brady and D. F. Carson, as well as several other personal friends upon whom I could impose my questions.

It would appear to the writer that we as physicians must admit, that frequently the juror or commissioner receives the impression the medical opinions on a given personal injury case, are in wide variance.

Honesty on the part of the physician witness is assumed granting of course that physicians are heir to human frailties in common with all mankind. Equivocation and mental reservation by reason of the technicalities characterizing expert testimony, are much more frequently charged than actually exist. At least one of my consultants objected to our passing this sub-premise with this statement, arguing that he who is so accused as favoring either the plaintiff or the defense, is the physician most frequently heard in the court room. It is the writer's opinion, however, that honesty characterizes the physician's attitude and effort, to a degree as to not require a large amount of our attention here.

It is a well recognized fact that the partial witness appearing at an impartial hearing carries little or possibly no influence, therefore the physician who wishes to assist in the dispensation of justice should guard his manner as well as his words.

Someone has said that any good lawyer can find expert testimony to prove any rational point, regardless of the application or relation of the point to the matter in question. Such a situation is frequently observed in the hearing of personal injury cases; the plaintiff stresses one series of symptoms and the defense another. The fallacy of the situation is that the medically un-informed jury or commissioner are expected to

*Read at the 74th annual meeting of the Kansas Medical Society, May 3, 4 and 5, 1932, Kansas City, Kansas.

correlate medical facts and arrive at a just conclusion. Such being impossible they frequently find it necessary to disregard, at least in part, both professional factions and decide the issue on the testimony of lay witnesses.

Undoubtedly, all of us have had the feeling as we left the witness chair that we failed to give the jury the facts we fully intended to relate. Probably the lawyers would not let us or perhaps we experienced pure stage fright. There is no more embarrassing state of mind than that possessed by the witness on the stand. He is absolutely alone sworn by solemn oath to tell the truth the whole truth and nothing but the truth. He is engaged in an unequally matched contest, ofttimes with two adroit and shrewd lawyers, perhaps personal friends, who permit little opportunity for the relation of the whole uncolored truth. The witness has but one duty to perform and that is, to answer questions. He cannot engage in an argument, debate or deliver an oration. He has the courtroom's undivided attention; his very mannerism, the tone of his voice, every movement that he makes is closely scrutinized and watched by the jury, the judge and the lawyers. The physician is at a great disadvantage, no matter what his desire in the matter may be. The lawyer from the very nature of his profession knows that he is dealing with human emotions, human experiences and human weaknesses. There is little wonder that under these circumstances and advantages, the attorney may bring out that fraction of the truth he may wish to emphasize, the witness's oath notwithstanding.

Fortunately strict rules of evidence do not apply in the hearing of cases before the Commissioner of Workmen's Compensation, consequently greater latitude of the physician's testimony is permitted. Many of the requirements of the trial court need not be observed; although it should be remembered the findings of the commissioner are subject to review by the district judge. (Workmen's Compensation Law Sec. 23).

The Workmen's Compensation law is based in a large measure on the premise of the professional determination of the extent of injury and the degree of disability. It is manifestly true, therefore, that the act in order to be just and successful in operation, will depend largely on the physician's testimony.

It has been charged that the frame of mind of the physician when accepting the injured employee as a patient, is totally different than that with which he accepts other patients and that he permits his frame of mind to influence his attitude to an excessive and perhaps harmful degree.

It was pointed out to the writer that many of the medical profession (and the legal as well) deem it a privilege and somewhat a mark of distinction to be professionally employed by corporations. That in some communities a feeling of false pride has grown in each profession, that somehow places the individual on a high plane, who is thus designated by a corporation, than he who is employed by an individual. In amplification of this point I quote from a personal communication:

"For approximately twenty years I was privileged with having to do and practicing law for the plaintiff only. Without any effort on my part, and, may I say or add, over my objection, have I been more or less deprived of that line of practice and hired by some of the leading corporations of this vicinity. I find, as an attorney for a corporation, as against when I was attorney for the plaintiff, that the medical profession look more kindly on my calling them, than when I engaged them for the plaintiff. I further find, that as a class they have a false and erroneous idea that because of the fact that I, as an attorney for a corporation call a commission, that they have to, in furtherance of the call and appointment, discredit, belittle and minimize the injuries, if any, to the petitioner. This conduct and policy of the medical profession is not had and done by them corruptly. On the contrary, the gentlemen, have for unknown reasons to me, acquired an ambition, so to speak, a desire that they might be called upon and classed as experts for the defendant,

forgetting the greater duty of oath and allegiance to the profession, and to humanity as a whole."

That a certain class of physicians are too anxious to believe the individual patient is shamming and is a malingerer is all too frequently heard for the general welfare of the good name of the medical profession. As is pointed out above, the Workmen's Compensation Act of Kansas does not contemplate strict rules of evidence in the hearing of testimonies by the commissioner. Therefore, subjective symptoms may form a part of the physician's testimony.

One plaintiffly inclined advisor points out the physician in the course of his practice accepts and treats many patients, justly receiving his professional fee; therefore, basing his diagnosis and treatment wholly on subjective symptoms. But, should a patient with similar subjective complaints come before him for an examination for the purpose of his testimony, he discounts the patient's story and maintains in his testimony that there was nothing wrong with the patient for there were no objective signs.

At the same time a second advisor calls the attention that there is another class of physicians who announce their pride in preferring to champion the cause of the friendless injured employee and that they are doing so for humanitarian purposes; that their announced qualification of attitude makes it impossible for them to be impartial and their qualification, mere subterfuge and a flimsy alibi. Undoubtedly each contention is based on facts.

Truly, it appears that the question of human frailties seems unescapable to the detriment of any man made plan. The writer has frequently thought the unreasonable, all inclusive and exorbitant wording of the petition ruffles the medical mind that is attempting to approach the problem impartially. Here we frequently read, "and all the muscles, ligaments, tendons, bones, joints and tissues were strained, sprained, lacerated, contused, bruised, fractured, etc." Finally ending with a "prayer" for a sum of money which admittedly is several times the amount they expect to receive if even most of the charges included in the petition are substantiated; and too, it is only natural when the physician sees commonplace types of injuries which he observes and treats daily following them to ultimate recovery, dressed up by the attorney in medico-legal adjectives, that he should fail to enter the spirit of gross exaggeration implied by the petition.

The criticism of our laws and court system seems to be the common privilege, so why should we be exceptions to the rule, particularly since we are indulging in self criticism with the desire for better understanding and the ultimate doing of justice.

Dr. Alice Hamilton, in an article entitled, "What about Lawyers," appearing in the October 1931 issue of Harper's Magazine, says, in part "But, I think it is the laws of evidence that puzzle and confuse the non-legal mind more than anything else about the law. One is on the witness stand, doing one's best to give a clear, connected statement of what one knows. But the laws of evidence require that the simplest story be interrupted, chopped into bits, and messed up till both the witness and jury are confused. What is essential to the story must be suppressed, for mysterious reasons; what is simple must be made endlessly complicated. The only explanation I have ever had for this clouding of clear waters of truth is that our courts are still working under laws which were framed when men were tortured to make them confess, and merciful judges tried to protect them, not by overthrowing the system—lawyers never do that—but by clever shifts which would do something while seeming to do something else. This explanation seems quite valid to a lawyer. To a physician it is as if he should say, 'Yes, I know it is all wrong to bleed a consumptive patient who has fever, but you see that practice dates back to the time when we did not know the nature of inflammation when we thought all fevers belonged to the so-called sanguinous type of diseases and must be treated by depletion.' "

Unquestionably, another of my conferers, is correct in the following statement: "Most doctors do not understand

the science of law; they lose sight of the fact that law is not made up of logic, but that it has grown by experience. The customs, the necessities, the prevalent political theories and the *mores* of the time have made the law as we know it."

It seems to the writer that the peculiar illogic of the law is illustrated in the example of the opinion of the Kansas supreme court wherein they define the basis of the physicians expert opinion. This definition is to be found in the much quoted case of Frazier vs. Atchison, Topeka and Santa Fe R.R. 27 Kansas 463, the opinion written in 1885. It confirms the finding of the lower court in assessing $1000.00 damages against the defendant, wherein six physicians agreed that Mrs. Frazier suffered traumatic neuralgia following an injury to the head. The opinion forbids that subjective symptoms related outside the court room, form the basis of an expert opinion and has qualified physicians' testimony ever since. That neuralgia seldom presents objective symptoms, even after 47 years' study, is a queer coincidence.

That portion of the opinion as concerns us and defines the legal basis of our testimony follows:

"Where the inquiry is, as to the extent of certain alleged personal injuries, a physician may be called as an expert to testify concerning them, giving his opinion based upon a personal examination of the part, as to his *present* condition, feelings and pains, and may also give in evidence such statement."

"But, the physician may not testify as to what the party said in respect to the past history of the case and the cause or duration of the injury; neither can he give an opinion based partially, upon his personal examination and partially upon what the party told him in reference to the past history of the case, and also upon statements of a third person in the presence of the party, in reference thereto." (27 Kansas 463) also (128 Kansas 524 and 132 Kansas 113).

The writer is convinced of the pure type of logic implied by the opinion and the various legal reasons in assuming the planned province of the jury, in hearing the evidence and reaching the truth. May we also add that perhaps a provision in the Kansas Compensation Act, and the trial court as well, that would permit the appointment of a medical referee (which I am told is permitted in some states) to hear the medical testimony of both sides and correlate the pure medical facts for the Commissioner or jury, could possibly better serve in the dispensation of justice.

Physicians should, however, be more conversant with the rules of evidence as it applies to their testimony. The Kansas decision further points out regarding the patient's past history that "anything in the nature of an assertion or statement is to be carefully excluded, and the testimony confined strictly to such complaints and expressions or groans as usually accompany and furnish evidence of a *present* existing pain or malady and generally what a patient says to the physician in describing a *present* bodily condition is admissible." Rogers, on expert testimony (P. 37) says that "a question should not be so framed as to permit the witness to roam through the evidence for himself and gather the facts as he may consider them proved and then state his conclusions concerning them."

Furthermore, "The examination of a medical expert in a personal injury case is always as to what was the condition of the patient after the injury, and he is not called upon to state whether that condition is the consequence of the injury." (Page V.N.Y. 57 Hun 123).

This of course suggests the well known hypothetical question, perhaps the crux of much misunderstanding of and by the medical witness. The Kansas decisions qualify this legal point at length. In case of Tift vs. Wilcox 6 Kansas 46, we read "an expert cannot give his opinion on the case under trial when the facts are controverted; but counsel must put to him a hypothetical case and ask his opinion upon such case." Further, (67 Kansas 410) "In asking a question of an expert witness, it is necessary to base it upon an hypothesis of fact, either expressed in the question or founded in the evidence already before the jury, well

recognized and easily grasped." Also (67 Kansas 410) "an expert cannot be called upon to give an opinion on facts in his mind and undisclosed or on matters in part within his observation and in part derived from others, but such facts must be stated to him hypothetically and his conclusion therefrom obtained."

Lawyers recognize the disadvantages of the hypothetical question. Professor Wigmore, quoted to the writer as standing pre-eminently at the head of the legal profession as far as matters of evidence are concerned says: "The hypothetical questions must go as a requirement. Its abuses have been so obstructive and nauseous that no remedy short of extirpation will suffice, the hypothetical question is mis-used by the clumsy and abused by the clever, has in practice lead to intolerable obstruction of the truth."

The practical objection from our standpoint is that the hypothetical question can be so framed, and certain symptoms so emphasized, by each opposing attorney as to call for exactly opposite answers. The non-medical listener is frequently hopelessly confused. Amplification of the physicians answer is usually permitted and should be made more frequently in simple non-technical terms which the jury can grasp. To simply reply "yes" or "no, but such are not the facts in this case," without further explanation carries the impression of partiality and an unwillingness to be helpful in assisting the jury, or commissioner with their problem.

At the same time physicians should guard against speculation in their answer. All too often we hear argued that, that which is possible is probable. Speculation though frequently insisted upon by the questioning attorney has been ruled incompetent, viz.: "As to the consequences of a condition or injury only those are entitled to consideration which in the ordinary course of nature are reasonably certain to ensue, consequences which are contingent and speculative or merely possible are incompetent" (Strohm vs. New York 96 N.Y. 305) and "A physician cannot speculate upon the difference in effect of an injury to a frail person, and an injury to a healthy one, nor consequences of a hypothetical second fracture on an issue as to a fractured limb." (Lincoln vs. S.&S.R Company 23 Wend 425). "Nor is the opinion of an expert as to the seriousness or the trivality of an injury competent, when it is possible to elicit the fact upon which the opinion is based." (Stoothoff vs. Brooklyn H.R. Co. 50 App. Div. 585). In other words the opinion must not be abstract. The reasoning of cause and effect must be rational, basing reason on that which in the ordinary course of events would be expected to ensue. The greatest chance for ridicule and discredit of the medical witness is present when he permits himself by reason of fear, anger or unwise ambition to be lead into the realm of speculation.

The question of medical authority seems to be a stumbling block in the thinking of the average attorney which accounts for the frequent array of medical books at the counsel table. That the date of publication may coincide with some of the rules governing medical testimony seems of little significance or importance to them. Medical literature like the Bible can be made to prove or disprove most any isolated point under controversy. They read into the record, (and are permitted to do so by supreme court decisions), individual opinion, fragmentary discussion of general subjects in application to specific, as a rule, unrelated points under discussion all of which to us the legal adjectives, irrelevant, incompetent and immaterial, seem most appropriate.

Perhaps the basic reason for the physician's difficulty in the expert witness chair is the contrast in the attitude of the two professions as concerns progress. Medicine appreciates its imperfection and grasps—almost too quickly sometimes—for what is newer and better. Physicians of course are very fallible human beings but if they have any wisdom at all they grow in wisdom as the years pass. They discard what they learned as students, and accept what modern research gives them. But, with the lawyers it is not so. Amazing as it seems, I read that it is quite possible for

man to attain to the highest legal position in the land without changing his mental attitude on any important point since he graduated from law school. This has been referred to as an indictment of the profession but our premise includes no basis for such conclusion.

We, as physicians are seriously concerned with our problem to society and our contribution to the doing of justice. We seriously wish to be impartial witnesses. Undoubtedly the majority of the charges of our shortcomings are well founded and warranted. They will receive correction to the best of our ability and to the extent the greater progress of our profession makes possible.

The physician's answers should be crisp and plainly audible, remembering that what he says in answer to the attorney is of value only when heard and understood by the jury or commissioner. The essential facts should be on the tip of his tongue and his clinical record made at the time of his examination in his possession. In other words he should, "be prepared," be learned but not appear "smart." He should radiate confidence in himself, honesty of purpose, fairness and impartiality. He should refuse to be browbeaten by that manner his nature best dictates. He should avoid an argumentative attitude or tone of voice. The guarded answers and indirect replies with one eye on the court reporter as though dictating a very technical book are much too frequently seen, forgetting as it were "the matter now on trial." He should be willing to admit error or lack of knowledge. He should be frank. He should not be too scientific nor appear "highbrow." He should never assume the attitude of an advocate, and should attempt to be indifferent as to the result of the trial. He should make it his sole purpose to advise the court and jury the true facts on the matters and only the matters he is interrogated upon, with due respect for, but independent of the opinions of others. He should school himself in the willingness to assume the facts stated in the question.

Medical consultations are held with the prime motive of agreeing on that conclusion and course which offers the greatest benefit for our patient. Our code requires that should partisanism enter, a third consultant come and the minority opinion withdraw. In other words partisanism is put down. Legal procedures assume and foster partisanism. The physician's attitude in court has probably been too much influenced by his association. Can this be the answer?

EXTRA-UTERINE GESTATION*

C. E. Joss, M.D.
Topeka, Kansas

In presenting the subject of extra-uterine gestation to this meeting I do not intend to offer an elaborate array of statistics, technical nomenclature or theory, but rather to approach it from the viewpoint of the general practitioner, by whom, in this section practically all cases are first seen and on whom rests the responsibility of recognition and appropriate treatment. Although the condition is relatively infrequent, it appears to be increasing and the Division of Vital Statistics of our State Board of Health for the past five years has shown from 5 to 15 deaths annually from this cause, which although not a large number still represents an unnecessary loss of mother's lives in view of the extremely satisfactory results obtained by early recognition and immediate treatment. We believe that too often delay may be the factor which swings the balance the wrong way and the apparently prevalent custom of waiting for recovery from the initial shock which may result in a cessation of a hemorrhage and permit a later operation, is unsound in theory and dangerous in practice. I have personally seen cases brought to the hospital in a moribund condition in whom rupture of a tubal pregnancy had been diagnosed twenty-four hours previously, but who were kept waiting more as a matter of convenience to the attending physician. Such an experience is not easily forgotten and furnishes an ample excuse to recall to your consideration a few of the salient points regarding the history, diagnosis and treatment of this condition.

Historically, we find the first mention

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of extra-uterine pregnancy in a case reported by Albucasis, an Arabian physician who lived in Spain about the middle of the eleventh century. Following this numerous other cases were reported, the vast majority being those of abdominal pregnancy terminating in the formation of lithopedions or forming abscesses and discharging fetal parts through abdominal, rectal or vaginal fistulae. Laporatomy for the removal of old abdominal fetuses was recommended as early as 1500 and in 1759 a New York physician, Dr. John Bard, performed the first operation in America for such a condition. Between this time and 1846 five other such operations were done. Dr. John Parry of Philadelphia in 1876 published a monograph on this subject and had collected 500 cases. It is worthy of note that although early operation for tubal rupture was suggested as early as 1849, as late as 1881 Lawson Tait was asked to operate upon such a case and refused to do so, the patient dying shortly afterward. To Tait, however, is given the credit for performing the first operation for tubal rupture in 1883 and although the patient succumbed he was so thoroughly convinced of the rationale of the procedure that he attributed his poor result to faulty technic; changing his method, of the next forty cases, he lost but one. This record was not slow in changing the general opinion of the medical fraternity as to the efficiency of operation, although at the same period the gynecologists were advocating the destruction of the fetus by galvanism. As late as 1890 Howard Kelly found no fault with those who preferred to use electricity during the early months, holding themselves in readiness to perform abdominal section upon the appearance of the first untoward symptom.

Again, and I think this has still a present influence, was the experimental work of Hunter Robb, in reporting that in severing the uterine or ovarian arteries of pregnant bitches that practically none succumbed to hemorrhage. From this he reasoned that women did not die from hemorrhage but from the attendant shock and if the shock were properly combated the patient would react and operation if at all necessary could be safely performed after reaction.

The incidence of extra-uterine gestation shows a wide variation in the published reports. Before 1900 it was thought to be from one in 500 up to one in a thousand or more pregnancies. Bandl of Vienna saw only three in 60,000 births. Schuman in Philadelphia in 1918 in compiling all admissions for this condition to the hospitals and comparing the number with the number of births registered for the same period, found it to be about one in three hundred. Of these, fully two-thirds occur between the ages of 24 and 35. This is worthy of consideration when we recall the often repeated statement that extra-uterine pregnancy occurs most frequently following a prolonged period of apparent sterility. It is my belief many cases escape diagnosis and recover completely, which if recognized would add materially to the established statistics. I have seen 12 cases occur, proven by operation, in one general practitioner's work within 12 months. In checking my records I find in the last 8 years this one physician has referred me 27 cases and has had several others operated by other surgeons.

As to race, it is thought in the east there may be a slightly higher incidence in the colored race, possibly due to more prevalent tubal infections. I do not believe that the race per se, is of consequence.

The causative factors of ectopic gestation are not always possible of determination. We may say in general that the cause must lie in some interference with the passage of the ovum from the fimbriated extremity of the tube to the uterine cavity. Such interference may be due to (a) obstruction of the tubal lumen from without; (b) obstruction of the tubal lumen from within, and (c) congenital anomalies of the tube presenting pockets into which the ovum falls and can be propelled no farther.

Of these, by far the majority of cases fall into the first two groups. For all practical purposes I think we may say inflammatory conditions of the tubes may be found to have been present at some time during the patient's life and

possibly at a considerably distant period. This inflammatory process may have been so mild as to have escaped notice. It may have resulted from a gonococcal infection; it may have followed an abortion or labor; a previous appendicitis with peritonitis, or an unrecognized peritoneal inflammation during childhood. If bands, adhesions, or marked kinking of the tube from without are present, it is entirely possible associated infection may have occurred within the tube and distortion of the lumen and destruction of the ciliated epithelium have resulted, to impede or prevent the migration of the fertilized ovum.

Caryl Potter of St. Joseph, Missouri, in the past year has called attention to the possibility that the intra-uterine pessaries so often used as a contraceptive may be an etiological factor by reason of the subacute infection produced by their use and reports two cases. In a recent case of my own, the woman gives a history of having worn one of these for six years.

Reconstructive operations show a high percentage of extra-uterine gestation in those in whom pregnancy subsequently occurs, estimated as high in frequency as 25 per cent. A second occurrence in the same person is common. In one case reported by a friend a tubal abortion having occurred, the tube was resected and a second tubal pregnancy occurred in that tube with a third one in the opposite side. Bilateral tubal gestation is also of sufficiently frequent occurrence that in operating upon one side, the opposite should be carefully inspected. Cases have also been reported in which the obstructive factor was the presence of a tumor in the cornua of the uterus or broad ligament compressing the tube sufficiently to obstruct the lumen.

The diagnosis of this condition while frequently obvious, especially after rupture has taken place, may be difficult. The history is of extreme importance. In almost all cases, a definite irregularity in the menstrual period is present. This may be a delay in appearance; a prolongation of the normal period, or alteration in the character of the flow. The latter is so common that prolonged dribbling or spotting is looked upon as almost pathognomonic. Following the disturbance in the menstrual rhythm in from a few days to two or three weeks the patient is seized with a sudden very sharp cramping pain generally referred to one or the other lower quadrants of the abdomen and often quickly followed by a feeling of faintness or even syncope. If not recognized at this time the attacks of pain and syncope often recur and the woman becomes progressively anemic. The presence of blood in the peritoneal cavity is frequently associated with the complaint of pain in the shoulder or neck and often this is a striking symptom. Pigmentation of the umbilicus known as Cullen's sign can appear only as a late symptom and I have never been able to find it in any case even in those in whom the rupture has been known to have occurred sometime previously. The pain may and frequently does occur as the result of sudden exertion, such as stooping over to pick something from the floor or even from straining at the stool.

Following the initial pain if the hemorrhage is severe, the patient becomes progressively anemic. It is of importance to remember in these patients even with an apparent extreme pallor from a severe hemorrhage that the blood count or hemoglobin estimation early shows little if any change, and not until the circulating blood volume is restored by the abstraction of fluid from the body tissues is the anemia demonstrable by blood examination. The leucocyte count often rises with a slight increase in the neutrophiles but returns rapidly to normal. The blood pressure shows a decline in both systolic and diastolic readings.

Pelvic examination before rupture may in the hands of the expert gynecologist disclose a localized enlargement in the course of the tube. Great care must be exercised in such examination as rupture may occur from even such slight pressure placing an added responsibility upon the attendant.

Following rupture there is exquisite pelvic tenderness, great pain on motion of the uterus and a boggy mass may be

felt in the culdesac. A frequent complaint of the patient is that of severe pain on defecation. The uterus may or may not be enlarged. The early signs of pregnancy are usually absent. I have had no experience with the Ascheim-Zondek test in these patients but believe that it might be of aid in the differential diagnosis in determining the presence of pregnancy.

Among the various conditions to be considered in diagnosis are: abortion; acute appendicitis or salpingitis; ovarian cyst with rupture or twisted pedicle; renal colic or the perforation of a gastric or duodenal ulcer. Of these, a threatened abortion is most confusing. In abortion, the pain is milder in the beginning; is more often more central in location and becomes increasingly severe; the cervix shows dilatation and the flow is brighter in color and more profuse. The flow of a tubal pregnancy is generally slight, often a dirty brown color and is rather a spotting or dribble. In the differentiation of the other conditions, the history is the important feature. Acute inflammatory conditions are generally accompanied by higher temperatures and higher leucocyte counts and do not have the early, rapid asthenia of a gross hemorrhage.

Puncture of the posterior fornix has been recommended but in my opinion it should be condemned because of the danger of infection, and because the indications for surgical intervention are most commonly sufficiently urgent to make such a procedure unnecessary.

To summarize the diagnosis we have:

(1) menstrual irregularity; (2) sudden severe pain in either lower abdominal quadrant followed by faintness or syncope; (3) increasing anemia, and (4) definite palpation of a doughy mass in the culdesac. Any two of these are considered as justifying laporatomy.

The treatment in any case that can be definitely diagnosed either before rupture or afterward, is surgical; to delay may be fatal. I do not believe that waiting for shock to subside is always justifiable, although it is wise to attempt to place the patient in the best possible condition. The operation should not be a lengthy one nor need it be. We would not hesitate to operate to control hemorrhage from any other source; why should we allow it to continue in these cases if certain of the diagnosis? We have no way in which to determine the site of rupture. We know the nearer the uterus the tear occurs, the more rapid and profuse is the bleeding. While I am certain the majority of cases may permit of some delay, I am of the opinion the earlier the operation is done, the more prompt and rapid the recovery.

I have several times used the simple procedure of transfusing the blood from the peritoneal cavity to the patient's veins with very satisfactory results. The method is simple. The blood is aspirated, dipped or wrung from sponges into a sterile basin, the clots are strained out through several thicknesses of gauze and if necessary a small amount of sodium citrate added to prevent further coagulation and immediately introduced by gravity into the circulation. The change in the recipient is gratifying. The color returns, the pulse slows and the blood pressure rises. In no case has there been a single reaction as is seen when using blood from a donor. It is possible to recover from 500 to 1,000 c.c. of blood in this manner, and adds so little time to the intra-abdominal procedure that it seems to me well worth while.

In one woman who was practically pulseless with a systolic pressure of 36 mm. and apparently at the point of death from hemorrhage, the blood pressure rose to 100 mm., the pulse fell from 180 to 120 and she made a rapid and uneventful recovery. I believe this measure is worthy of consideration and while it is unnecessary in most cases may serve well in some of the extremely acute exsanguinations that we see with a tubal rupture. In the case just mentioned, it happened to be the second occurrence of a tubal pregnancy. The patient recognized the condition, came to the hospital as soon as possible and yet was almost moribund within four hours.

It may be of interest to add that while the Catholic hospitals have up to recently forbidden the removal of an unrup-

tured tubal pregnancy, I have learned it is now permitted, the possibility of the survival of the fetus to viability being considered so slight in proportion to the maternal danger, that it is now considered as a pathological process and as such may be removed.

In conclusion, I wish to present a few findings I have been able to gather from a personal series of about sixty cases seen in the past eight years. In this group there have been four deaths. Two were the result of hemorrhage, both of which had been recognized over 24 hours before admission. A third case died suddenly about six hours after operation which did not seem to be due to exsanguination but might have been due to embolism. The fourth was in a case of hyperthyroidism who went into a crisis immediately after the operation and died as the result.

Contrary to the teaching that prevailed in my student days that tubal pregnancy did not occur with the first gestation, in this series it occurred 12 times. The youngest patients were 16 and 17 and no patient was over 40. There was no appreciable difference as to the side. I have had no case of bilateral synchronous tubal pregnancy nor one of tubal pregnancy with a uterine gestation. I have seen a recurrence on the opposite side in four cases. Two women had been subjected to curettage prior to operation, one in Oklahoma and one in Iowa. In the multiparae it was nearly always possible to obtain a history of fever following labor or of an abortion.

The period of time elapsing between the missed period and the attack of pain averages about ten days. I have found one abdominal pregnancy of about four months; one of three months, and several cases in which the ovum developed in the fimbriated end and progressed for 4 to 6 weeks before a rupture or a tubal abortion occurred.

To summarize, may I repeat: rupture of a tubal pregnancy is not a rare condition; early recognition is easy and prompt treatment is imperative.

CLINICAL SIGNIFICANCE OF ACHYLIA GASTRICA*

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The term achylia gastrica is used today to denote complete absence of free hydrochloric acid and pepsin in the gastric contents *at any time* during gastric digestion. In the past we have been guilty of using this term too loosely and have often employed it when we should really have employed such terms as achlorhydria, subacidity or anacidity.

It is important to know if a patient has an achylia gastrica rather than just a lowering of free acid. The prognosis is quite different. It is impossible, at one withdrawal, to determine a complete absence of free hydrochloric acid, and a fractional examination must be resorted to. If the stomach contents after an Ewald meal show no free acid, we must remember that in this method of testing, the contents might leave the stomach very rapidly; hence this test should not be a final criterion of the complete absence of acid. No less an authority than Smithies[1] calls our attention to the fact that there is a variation in the rate of secretion of acid following introduction of various foods; the stimulus to the gastric mucosa may not be long enough to induce formation of acid secretion. He advises using a dry meal to allow stimulation over a greater period of time; oftimes this reveals some acid gastric secretion. An alcoholic test or a full meal might reveal some acid gastric secretion when other tests fail.

Before a diagnosis of achylia gastrica is made, we should determine the fact that under stimulation with histamine no acid gastric juice is elaborated. One cubic centimeter of histamine hydrochloride (1-1000 sol.) is used or Ergamine phosphate (B. W. & Co.) .5 c.c. or Imido (Roche) .5 c.c. may be used. If after these tests no free acid is found, we may conclude that we have achylia gastrica.

Various theories of the etiology of this condition have been brought forward. Martius[2] explained it as a constitutional

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weakness and has as a supporter such an authority as Hurst.[3] Einhorn[4] in 1892 stated this condition resulted from a functional disturbance—a nervous disturbance—in which the stomach had lost its power to secrete acid gastric juice. He found well preserved gastric glands. On the other hand, Ewald and Faber[5, 6] both noticed changes in the gastric glands. Faber, in extensive research work, being careful that no post mortem changes in the gastric mucosa had taken place, comes to the conclusion that chronic achylia has an exogenous cause and is produced by external factors acting on the stomach, either by direct irritation of the mucus membrane or through the blood circulation by a toxic action on the gastric parenchyma; further that the anatomical picture of gastritis will develop in both cases and that the gastritis can lead to more or less atrophy of the glands, but that achylia occurs at such an early stage of gastritis that there is no question of atrophy, to say nothing of anadeny; too, achylia may be found in combination with anatomically preserved glands and undamaged cells—though there is a pronounced gastritis.

We cannot ignore the fact that certain individuals inherit a poor kind of tissue —this tissue may be kidney, heart, pancreas, gastric mucosa or what not. It is then reasonable to believe that these patients who have inherited a gastric mucosa which is not up to normal, may more easily, under stress or strain or even under normal conditions, show evidence of changes in the gastric secretion. The fact that achylia gastrica has been found to exist in families cannot be ignored. Albu[7] noted it in several members of one family. Udaondo[8] noted it in a mother, a son, and daughter. Friedenwald[9] found it in a father and two daughters and also in two brothers and an uncle. Certainly this occurrence is more than chance. It would be wise to combine the exogenous theory Faber sets forth with the inherent congenital weakness of the secretory mechanism that others believe in and say that both of these may be the causes of achylia gastrica.

It is, indeed, a fact that quite often we find no cause for achylia gastrica; this, of course, is true of other medical problems such as hypertension and purpura. Who knows but, that sometime in the near future, these so-called idiopathic conditions will come to light with definite causative factors?

To most of us the mention of achylia gastrica, immediately makes us think of pernicious anemia. It is true much work has been done on the relationship between achylia gastrica and pernicious anemia. From Fenwick,[10] Ewald,[11] Lewy,[12] Henry and Osler,[13] and Jaworski[14] down to our present time, this disease has been found to be only one of the many which are associated with achylia gastrica. Hurst and Faber have pointed out that achylia gastrica preceded pernicious anemia. Weinberg[15] reports a father who had pernicious anemia and whose five children, ranging in age from three to ten, all had achylia gastrica. I have seen three cases of pernicious anemia in whom the achylia gastrica preceded the disease eight years or more. Hartman[16] mentions a patient whose stomach was completely removed surgically for carcinoma who, one year later developed a blood picture simulating pernicious anemia. Monyihan[17] describes a similar case. One then feels that the absence of free hydrochloric is a predisposing factor in the production of pernicious anemia. An interesting finding is that the achylia *does not disappear* in the remissions which previously occurred in pernicious anemia and neither with the improvement seen now after liver feeding. Johansen[18] reports nineteen cases with pernicious anemia who were treated with liver and liver preparations from three to seventeen months in whom all other symptoms disappeared or improved considerably; three did not show any change whatever in the achylia present and no free hydrochloric acid could be demonstrated in the gastric juice even after histamine injection. It is important to remember that eighty per cent of the patients suffering with pernicious anemia show definite cord changes, identical with sub-

acute combined degeneration of the spinal cord. Hurst is of the opinion that in achylia two toxins are produced: one a hemolytic, which may lead to pernicious anemia; and the other, a neurotoxin which has a special affinity for the lateral and posterior columns of the cord, causing the so-called subacute degeneration of the cord or combined sclerosis.

We often observe neurasthenic individuals at the onset of menstruation who show an achylia but when the nervous symptoms abate, the achylia disappears.

I might mention here that the younger the patient, the more frequently we note return of secretion; the older the patient, the more stable is the achylia. Over the age of forty, it is rare to have an established achylia recover. The acute infections such as typhoid, cholera, influenza, angina, pneumonia and bronchitis may be associated with an achylia and this may last for quite some time after convalescence. Some of the diseases which often have an associated achylia are pellagra, sprue, beriberi, diabetes, leukoderma, leukemia, toxic thyroid, carcinoma of the stomach, gall bladder infections, chronic gastritis, anemia, arterio-sclerosis, syphilis, rheumatoid arthritis, colon bacillus infection of the genito-urinary tract and in progressive periods of chronic pulmonary tuberculosis.

Carlson[19] reports in normal digestion, the average meal calls forth about 700 c.c. gastric juice with five-tenths per cent (three and five-tenths c.c.) free hydrochloric acid. The action of normal acid gastric juice is twofold, one a digestive and the other antiseptic. Pepsin in the presence of free or organically combined hydrochloric acid allows a partial conversion of protein into simple bodies; also according to Adolf Schmidt, hydrochloric acid has a softening action on connective tissue. The antiseptic action is portrayed by the fact there is a destruction of organisms in the stomach which may come from the mouth, nasopharynx, food or drink.

Quite often the achylia gastrica gives no danger signal to the patient. There may be no symptoms whatsoever. The patient may continue to bolt his food, to eat or drink too hot or cold food, to partake of highly seasoned food which will not only irritate the gastric mucosa but will pass on into the duodenum in the same state as swallowed and there too set up an irritation. This irritation might extend to other parts of the small intestine. Due to these excessive incompletely digested proteins and to the increased number of bacteria which these undigested proteins call forth, we find the colon showing signs of irritation. It is this which causes the early morning diarrhea. Oftimes diarrhea is produced immediately following meals as the food just passes through the chemically controlled sphincter, there being no acid to regulate pyloric mechanism. It is for this reason that achylic patients must be careful not to imbibe spoiled foods as this will add insult to injury.

The stools are large and frothy and usually there is no pain or cramp present. When symptoms are present, the most common ones are pyrosis, gas, and diarrhea.

The treatment consists of large doses of dilute hydrochloric acid, at least a teaspoonful with sweetened lemonade or orangeade drunk with the meal. It is advisable daily to drink a quart of milk artificially soured with lactic acid bacillus.

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RHEUMATIC INVOLVEMENT OF THE PERITONEUM*

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To escape from the hackneyed topics so frequently discussed at medical society meetings and find a subject that may be interesting and still not threadbare is not an easy task; it sometimes leads us to the presentation of topics that are regarded as more or less useless to the profession. We have become surfeited with the numerous dissertations on the "acute abdomen" and the "acute surgical belly," it would seem that the various vagaries and afflictions of this particular section of the human anatomy have been discussed with a finality that leaves nothing more to be said if we are to abide by the dogma of our contemporaries.

Whether or not the topic which I shall present for your discussion really exists as an entity will, I am sure, be a matter of doubt in the minds of some of you. That it does exist and exists with a frequency entirely unsuspected, I believe there can be no reasonable doubt. It has suggested itself to me from the fact that within the last five years I have seen two cases, one in a member of my own family, that presented a symptomatology regarded as classical. Rheumatic fever with its arthritic manifestations is a common affliction. We are also aware of the numerous sequelae that attend this condition, particularly in the young. We have been impressed with the close association of other disorders such as diseased tonsils and chorea with rheumatic manifestations. The endocardial sequelae is a condition that in all cases of rheumatic fever in the young, is an ever present threat that causes the medical attendant serious concern. Rosenow in his admirable researches on the morphology of the specific organism regarded as responsible for this disease, has clearly demonstrated the protean character of its pathologic manifestations, and the affinity of this germ for endothelial structures. Endocardial, pericardial and pleuritic manifestations occur with such frequency as to occasion little present day comment. However, very little has been presented in the way of clinical contributions bearing on the role played by this organism as an invading agent of the peritoneal structures. Certain correlated phenomena such as so-called rheumatic appendicitis and the known tendency of abdominal pain frequently regarded as demanding surgical intervention in cases presenting lesions of pulmonary tuberculosis in the young, the well known phenomena of acute abdominal pain that occurs in acute pneumonic conditions in childhood, are established factors in a differential diagnostic consideration of these conditions. The pneumococcus and the gonococcus present numerous authenticated instances of peritoneal invasion. However, even in our more recent text books, the possibility of rheumatic peritoneal invasion, presenting symptoms of generalized infection is not mentioned as a differential factor.

The condition is not new and much credit is due to the acute discernment of those who have preceded us in the medical field in differentiating this condition from other forms of peritoneal involvement strictly on the basis of its symptomatologic manifestations. As early as 1839 Andral describes this condition with a clarity that places it in a classical grouping. While the condition had been mentioned previously by other French writers, he is the first to have thoroughly defined and analyzed its symptomatology. Since that time numerous writers have described the condition but no writer has had within his own experience a large number of cases. Quite recently Wood and Eliason have presented a review of the literature on this subject that is extremely interesting. Among the older writers it was characterized as "pseudo-appendicitis," "pseudo-typhilitis," "nonmalignant peritonitis" and other designations.

In more recent years particularly since

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the advent of aseptic abdominal surgery we have come to regard every disorder that exhibits the manifestations of extreme pain due to peritonitis as falling legitimately within the province of the surgeon. The disastrous effects of delay in dealing with acute abdominal conditions has dictated a policy of prompt surgical consideration in all types of disorders wherein evidence of peritoneal irritation is the outstanding symptom. It has been the experience of every surgeon who has handled a large number of abdominal cases that in a considerable percentage of these, where evidences of acute peritoneal irritation have suggested the propriety of early surgical intervention to find upon opening the abdomen no specific pathology of any intra-abdominal organ sufficient to account for the symptoms manifested. In these cases in the majority of which a more or less congested appendix has been found, the appendix has been removed with subsequent satisfactory recovery. In some, operated in the early stages, evidences of general peritoneal irritation such as exudation and sometimes fibrinous bands have been discovered. The general manifestations of rheumatic peritonitis may be briefly summarized as follows:

Like endocardial and pericardial invasion, its occurrence is in the majority of all cases, in the young; it is characterized by acute abdominal pain and rigidity, usually accompanied by early vomiting and frequently by diarrheal manifestations; a leukocytosis of fifteen to twenty thousand, and a temperature of 101 to 103, with tachycardia. The condition shows no definite tendency toward localization but the abdominal tenderness is generalized and extreme. There is some degree of distention and marked rigidity. The abdominal symptoms are preceded or followed immediately or in a few days by arthritic manifestations. A remarkable feature of the disorder is that while these arthritic manifestations may precede or follow the peritoneal manifestation they do not commonly co-exist with it. In other words, if the manifestations in the beginning are purely arthritic and the joint symptoms are initial, they subside when subsequent peritoneal symptoms develop. The condition yields promptly to the administration of salicylates in moderately large doses. The two cases observed may tend to clarify our conception of this condition.

Case No. 1: Robust girl of 14, never experienced any serious illness, sudden onset with vomiting and looseness of bowels. Immediate onset of generalized abdominal pain, rigidity and tenderness. Temperature gradually reached 102 degrees, was fairly constant; a leukocytosis of 17,000; pulse 120-30, skin dry. The condition persisted for four days without signs of localization and pain was sufficient to seriously interfere with sleep. The appetite was not impaired and the patient complained of hunger. Fluid nourishment was given at regular intervals and retained after initial vomiting and the fluid intake encouraged. There was no vomiting after the first day, distention remained moderate and high leukocyte count continued. The general opinion of the staff was that the appendix was involved even in the absence of localizing symptoms. A consulting surgeon from the city was called. His diagnosis was rheumatic peritonitis. He suggested the exhibition of salicylates in large doses. In about 20 hours from the institution of treatment the abdominal pain subsided, distention disappeared, though there was some residual tenderness on pressure. Arthritic symptoms of mild type immediately developed in the left shoulder and elbow and the right wrist with moderately elevated temperature. Treatment continued with gradual cessation of joint symptoms in about a week.

Case No. 2: Patient a white male, age 22, complained of severe angina and pains in the knees and ankles—was receiving small doses of salicylates. Suddenly developed severe generalized abdominal pain with distention, vomiting and a rapid pulse. There were 15,000 white cells and evidences of great suffering. A diagnosis of appendicitis with possible rupture of the appendix was made and immediate operation under-

taken. On opening the abdomen, both parietal and visceral layers of the peritoneum were found congested, the appendix also was injected, there was considerable clear yellowish exudate in the peritoneal cavity. Exploration showed no involvement to account for the severity of symptoms shown. The appendix was removed and incision closed without drainage. Distention and pain continued, the former in marked degree. Vomiting ceased and fluid nourishment was retained. Due to the continued distention the sutures cut through and the abdominal wound opened. It was temporarily closed by the application of long adhesive strips and later re-sutured under light anesthesia. The white count remained at a fairly constant level and general temperature range 100-102. The temperature and distention gradually subsided and the patient made a tedious physical recovery with marked coincident mental improvement leaving the hospital some months later, but complained of some joint stiffness and pain on motion for some weeks during convalescence.

A review of the literature on this subject shows very little has appeared in our American Journals within recent years and the principal contributions dealing with this topic have appeared in French and German medical publications. Considerable work has been done to establish or disprove the existence of a true rheumatic peritonitis. At the present time the existence of such an entity is supported not only by the clinical syndrome above noted but by post mortem findings and particularly by the works of Kuttner.

Summarizing then, the occurrence of a syndrome in which polyarthritic manifestations precede or follow an attack of abdominal pain of acute onset and rather protracted course, without tendency to definite localization and accompanied by the usual rise in leukocyte count and a tachycardia, with a temperature persisting for several days after the subsidence of abdominal symptoms, we may assume a clinical picture that would conform to a diagnosis of rheumatic peritonitis, if occurring within the age period when such conditions are prone to appear. It is to be borne in mind that abdominal pain of a mild character is a frequent symptom in rheumatic children.

Graham and Paul have offered an interesting and valuable post mortem study of 18 fatal cases of acute rheumatic fever in which a definite inflammatory condition of the peritoneal structures was demonstrated. The occasional occurrence of fulminant appendicitis associated with attacks of tonsilitis and pharyngitis suggest a possible relationship that in connection with the occurrence of the so-called rheumatic appendix, lead us to assume a true rheumatic involvement of the peritoneum is entirely within the range of probability.

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ORAL THERAPY IN CONGENITAL SYPHILIS

The use of Stovarsol in congenital syphilis by pediatricians abroad induced Maxwell and Glaser to investigate the value of the therapy. The results achieved in ten cases are reported in full in the Am. J. Dis. Child. 43:1461-1489, June 1932.

In four cases the Wassermann reactions were negative when treatment was begun but as the parents were 4+ treatment was not delayed. These cases had remained negative over a period of thirteen months when reported. The other six cases had positive Wassermann reactions. Three were reversed after the first course of treatment, two at the end of the first rest period, and the other at the end of the second course of Stovarsol therapy. The results in these infants, all under one year of age when treatment was begun, are encouraging. Children over one year of age did not respond so readily.

Other advantageous features of Stovarsol therapy in congenital syphilis in infants and children as reported are; the remedy is administered by mouth, and the patients generally show improvement in appetite, general vigor and energy.

The authors believe that Stovarsol has a definite place in the treatment for congenital syphilis. Administration must always be under the direction of the physician as toxic symptoms may appear. In the majority of cases these symptoms are evidently mild in character but occasionally they may be severe.

Stovarsol is a pentavalent arsenic preparation allied to arsphenamine in its chemical constitution. It is manufactured in this country by Messrs. Merck & Co., Inc., of Rahway, N. J.

℞

IT'S QUICK ACTION PREVENTS DEFORMITIES

No antiricketic substance will straighten bones that have become misshapen as the result of rickets. But Mead's Viosterol in Oil 250 D can be depended upon to prevent ricketic deformities. This is not true of all antiricketic agents, many of which are so limited by tolerance or bulk that they cannot be given in quantities sufficient to arrest the ricketic process promptly, with the result that the bones are not adequately calcified to bear weight or muscle-pull and hence become deformed.

HYGIENE OF VISION—EDUCATIONAL*

J. R. Mathews, M.D.
Manhattan, Kansas

Hygiene of vision is very necessary in preventive medicine. The eyes play a very important part in the human life and the need for preservation is very apparent.

Care of the eyes should begin at birth and continue throughout life. A child's future may depend on its vision and many children are deprived of the benefit of his natural resources through neglect of his eyes. It goes without saying that the eyes of the new born child should be very carefully examined—particularly if the mother has a vaginal discharge—and any inflammation of the eyes, no matter how slight should receive very careful attention, as gravest results may follow if there is any neglect of caution. Statistics bear this out very strongly as compared with the same conditions even in so short a time as twenty-five years.

The room where the infant sleeps may be brilliantly illuminated without harm to the child's eyes if the bed has the head placed toward the light or if the eyes are shaded by some soft, light absorbing material; also, when the child is taken out for an airing, the eyes should be protected by the same kind of material instead of a white parasol or perhaps nothing at all.

A child should be out of doors as much as possible when the weather permits, as he enjoys a change of scenery and the distant vision is very beneficial in the prevention of myopia. A child's eyes are very dependent on the condition of his general system; hence if the child has plenty of outdoors he will be much less likely to have abnormal conditions of the eyes.

Children should not be given very small toys to play with as they are very likely to injure the eyes with them. Large toys with smooth surfaces are much better.

Kindergartens and nursery schools taken as a whole lack very much of being ideal in the prevention of abnormal conditions of the eyes. These institutions were originated for the ultra-rich where everything possible that could be bought with money was available; now these institutions and particularly the nursery schools are taken advantage of by the middle and lower classes. In many of the larger cities they are held in buildings which were never intended for such uses, hence they have neither proper lighting nor ventilation and much of the work that is given these children is conducive of myopia.

In the past, much harm has been done to the eyes of people of all ages by improper lighting. These conditions have been greatly remedied in recent years, yet there are still many class rooms and study halls improperly lighted. School rooms and study halls, wherever possible, should be situated where they will have a north light, as this is more constant and much softer than any other light. There is no danger of too much brilliancy as long as the light is properly diffused and does not shine directly in the student's eyes. Modern diffused lighting is much preferred to any other kind of artificial light. That is light which is reflected against the ceilings or walls or transmitted through opalescent glass. There is a lighting system now in use which very effectively diffuses sunlight. It is a series of prisms in the windows which bend the rays of light in all directions so that a person any where in the room does not face direct sunlight. By preference, light should fall over the left shoulder of the right handed person and vice versa; this makes absence of shadows. Light which is obtained from both sides or from the right side of the right handed student makes shadows which are confusing to the eyes, causing eye strain. No one should try to read by a dim light.

Clerks and workmen who commute to their suburban homes should not read on trains, for the constant changing of distance from the eye causes a vast effort of accommodation; this is very tiresome.

The poor printing in the cheap fic-

*Read before the Riley County Medical Society, February 8, 1932, at Manhattan.

tion which many children read during their growing years is very prolific of eye trouble. Unfortunately, most of these children continue to read this type of literature throughout life.

Newspapers, which are the most read of all literature by all classes in all circumstances, are striking examples of poor print. We used to think that the type used by the Kansas City Star was the most easily read of any newspaper used in this territory. However, when the Star, two years ago, changed its type to the one it uses now and showed us by comparison how much easier the present type is to read than that which they had been using it was easy to see the improvement. I think the type now used by the Kansas City Star is the clearest and most easily read of any newspaper I have ever seen.

All books should be printed in a bold faced type with a good quality of ink on dull paper thick enough to obscure the print on the opposite side of the page. Print that cannot be read easily at twenty inches from the eyes should not be read continuously. The spacing between the lines should be at least two m.m. apart. It is very tiresome to the eyes to read long lines, as the external muscles are overworked. The lines should never be more than four inches long.

Good posture in the school child will help keep him from having eye strain. His seat should be no longer than his thigh and low enough so that his feet rest flat on the floor. The edge of the desk should be on a perpendicular line with the edge of the seat, the back of which should be slightly curved forward and the top of the desk be sloped about ten degrees.

To my mind a vast amount of reading imposed upon the child in our present day schools is very injurious to the eye sight. The eyes are no better qualified to withstand hard labor than any other organ of the body. If our legs get tired from walking or our arms from chopping wood, we rest them, but it is the habit of many people to continue reading for hours when the eyes should have a rest. If there was more oral work in school and more teaching by illustration there would be much less eye trouble, particularly in early life. Many of these people with tired eyes go to the oculist and he, of course, attempts to correct the refractive error. However, too often he neglects to ascertain the root of the trouble, forgetting that his lens only corrects the error and places his patient on the same level as the one who does not need glasses. I mean by this that many of these tired eyes merely need rest instead of glasses. It would be much better if possible to change the occupation a few times during the day, thereby giving the ciliary muscles a rest.

It is injurious to the eyes to read in a recumbent position; particularly is this so during convalescence. The desire to read while convalescing is sometimes almost irresistible, but should never be encouraged as the whole body is below normal and the eyes as well as the body are put upon an unnecessary strain.

There is no particular harm in a patient who has a broken arm or leg to read in bed for a long time. But, a great deal of harm may be done by reading by one who is recovering from a wasting illness. Reading while one is drowsy promotes congestion by forcing the ciliary muscles and also the external muscles to act under strain. No one should attempt to read when he is sleepy.

Moving pictures are more or less harmful to the eyes for while they are being constantly improved and less harmful, yet there is a constant changing of the focus and in the broad pictures, a certain amount of distortion. Some even have a conjunctivitis which is much like the Klieg conjunctivitis actors acquire from working in front of the Klieg light. This condition is caused from the glare of the white screen.

It may be said that upon no other organ of the body are there influences felt more strongly than upon the eyes by a poorly regulated school system. With the increased demands modern school systems make upon our children the natural result is that the eyes too often suffer from the effects of overwork.

It may also be said that to the present generation much credit is due for improved sanitary conditions we do have and in course of time doubtless we will be able to bestow upon the growing school child the highest degree of educational perfection with the least expenditure of physical well being. There can be no hard, fast rule as to what age children are most mentally and physically fit to enter upon school life. As in every other phase of life the individual and not the class, demands consideration. It is not uncommon for a child unfit by reason of ill-health or faulty vision to be permitted to attend school and these children are often accused of laziness or of being under-developed, by a careless instructor or parent. As a general rule children are not fitted to enter the hard work of school until their eighth or ninth year, as before this age their ocular tissues are not well formed.

With those, however, who have a high refractive error or other eye infirmity, heavy instruction should not be entered upon until both the eyes and the bodily health are corrected. The older the child gets the greater his ocular resistance and no harm will be done in deferring this child's education a year or two, especially when it is possible for him to receive home instruction. The problem of determining when a child is ready for school is a great one and it is not absolutely necessary that a skilled oculist be consulted. The duty lies chiefly with the parents and the school nurse. Eye tests that can be easily given should be given to all children entering school and if any defect whatever is found, an oculist should be consulted. It must be remembered, however, that many persons with fairly high degree of refractive error may be able to read the normal vision line by great muscular effort. In fact some of these children may be without symptoms until later in life when a serious refractive error may develop; hence it is advisable that an ophthalmoscopic examination be made in every case in addition to the usual vision tests. In a great many places these examinations are conducted by a medical examiner and the matter should be left in his hands. This will add to the school budget but it is well worth while and should be practiced, as any child whose vision could be saved or be enabled to go through life without glasses is surely worth the amount expended.

The location of school buildings play a very important part in eye conservation. In large cities the schools should not be located on narrow streets. By preference they should be in the middle of a large lot where there is sufficient light and ventilation. Investigation has shown defective vision is more prevalent in schools situated on narrow streets where proper illumination is interfered with by high walls and also pupils on lower floors suffer most. School buildings should be very remote from large factories where there are distracting noises or offensive odors and there should be properly lighted and ventilated play rooms for amusement on cold or rainy days.

All parts of the room should be lighted evenly with no direct light in the children's eyes. The walls should be painted with some light reflecting color such as green or blue.

Myopia is a very prevalent condition in many schools. Statistics show that at the beginning of school life most children are either hyper-metropic or emmetropic but in a school rom that is improperly lighted a child naturally brings his work closer to his face in order to see, and as the eye tissues have not attained their full power of resistance the eyeball becomes longer. The globe is pressed upon by the tightened recti muscles and the tissues become softened by repeated congestions, hence elongation of the globe occurs in the direction of least resistance, which is backward. The objects being necessarily brought closer for recognition require increased accommodation and the eye becomes more and more myopic. Much of this could be prevented by proper lighting and seating.

During epidemics of infectious diseases the eyes should be carefully observed. Uncleanliness with toilet articles

and bed linen and protection from bright lights should be carefully noted. Mild antiseptic lotions carefully used will abort many infections.

In the declining years of life the tissues of the eyes like other organs of the body, become less resistant to disease and as the result of undue strain and impaired nutrition often become a seat of serious disease. Hence the eyes should have more care and rest. When persons grow old, their power of accommodation gradually diminishes and usually at about the age of forty-five it has almost disappeared. At seventy to seventy-five it is nearly always entirely obliterated. This condition known as presbyopia is the natural result of oncoming old age. The lens has lost its elasticity and cannot assume the convexity which is necessary for accommodation. This convexity must therefore be supplied by suitable glasses. Long hours of reading and strong lights should be avoided as much as possible by the aged.

LETTERS FROM A KANSAS DOCTOR TO HIS SON

John A. Dillon, M.D.

Larned, Kansas

My dear Boy:

As you are back in school and launched out in your work I will again have to burden you with my correspondence. You probably view these literary efforts of mine with the sophisticated tolerance of the college youth but I trust they do not embarrass you. It is a sort of safety valve to me and gives a chance to pop off in harmless channels. Correspondence with one's son is seldom used in courts of law which is not always the case when it is directed outside the family circle. Along this line a word of advice might be pertinent. In your amorous campaigns, now that you are of age, confine your advances to word of mouth method. Avoid the scented missive duly autographed which proclaims the depths of your affection. You no doubt could get by with the latter method for a number of years especially if your pecuniary standing does not improve. However the time may come when some thrifty lawyer working on a fifty-fifty basis could make it very uncomfortable for you. I would suggest that in your correspondence you avoid such terms as "Honey," "Sweety," "Sugar Plum," etc. and in closing stick to "Yours truly," "Sincerely yours" and like expressions. Nor is there anything in this advice that should cramp your style in hand to hand conflicts, necking contests or other indoor sports that are so in vogue at this time. I only ask you to play the game squarely and make your word good both in love and in business. And keep the results entirely to yourself. Nothing is more detestable than the retailing of your private social affairs to your roommates or friends. The English term, "cad" fittingly describes such an individual and their expression, "it isn't done" is an ethical guide for decent rules of conduct.

Your letter inviting your mother and myself down to the Notre Dame game was quickly and permanently disposed of. Personally I would like to see the Notre Dame football team in action and preferably against a team of equal ability. But I cannot see the logic of paying $6.60, which I understand is the price, for two tickets entitling us to sit on a granular cement slab for two hours watching two illy matched teams play football. Of course you understand western Kansas on account of the altitude doesn't get much of a look-in on the complimentary tickets. Six dollars and sixty cents means twenty bushels of wheat or one tolerably fat hog, six days' hard work for some poor fellow trying to feed a wife and children. Twenty-six meals at a quarter of a dollar each which would be mighty gratefully received by some good American who lines up at an employment office. No wonder many people are bitter and in the mood to resent the display we see in our million-dollar stadiums all over the land. I am not a Bolshevist, a Socialist nor a Communist but I cannot see how the poor cuss, if he doesn't happen to be an ex-service man, has a very pleasant outlook for the future. Of course it will only be a few years when all ex-service men, regardless of financial condition, will be on the pension roll. Already our state has many

officers drawing practically total disability compensation and holding down high salaried positions. And I am ashamed to say a good number of these belong to the medical profession. I note by reading recent statistics that of the 300,000 men who were permitted to take part in the Spanish-American misunderstanding which lasted three and one-half months, 235,000 are now drawing pensions. I well remember what a scramble there was to join the Rough Riders and whip poor old moth-eaten Spain. This we did with dramatic enthusiasm, patriotic fervor and some expense for spurs and hats. A dozen Irish policemen from almost any large city could have attended to this little fracas any afternoon on which there was no ball game scheduled, saved a lot of expense and a lot of kissing of Hobson.

However this was before the days of rum running and racketeering and we were at our lowest era of efficiency. Of course it is not necessary to say we are all in favor of amply providing for soldiers who are incapacitated by reason of military service. We want them to have the best and we want their families duly cared for regardless of cost. But what I started to say is I will not be down for the Notre Dame game. Instead I will delegate to yourself and your brother the duty of carrying on for old Rock Chalk in the manner approved. You will please pardon this display of spleen I have exhibited on one or two subjects and if you make a mental note "The old man is getting childish," I will humbly acknowledge the allegation.

You may tell your brother the moratorium we declared on the writing of checks at his end of the line is still in force.

Love,

Dad.

UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

An Attempt to Prevent or Modify Measles by Injection of Adult Immune Serum

Albert Gausz, M.D.
and
Frank C. Neff, M.D.
Department of Pediatrics

Of six youthful patients between the ages of one year and nine years, in a colored ward, one, the oldest, gave a definite past history of having had measles while the other five had never had the disease. These children had all been in the hospital at least seven days when the first case of measles appeared.

The first case came down with the disease on his 51st day in the hospital. The course was moderately severe, the child had not been out of the hospital and at that time there had been no known contacts. Within a few days a second case came down, the youngest of the six children. This child also had a negative history of known contact until his contact with the first case above mentioned.

It was then decided to obtain serum from hospital adults who had a history of having had measles and whose blood was suitable, in an effort to control the spread of the disease throughout the hospital. Six hundred cubic centimeters of pooled blood were obtained from donors who had had measles in childhood. Serum was procured from this and each child received 20 c.c. intramuscularly, except the two who had the disease at the time, both of whom were uncomfortable and complained of their symptoms during the course of the disease. An attempt was made to isolate the two children with measles although the other patients had been well exposed. It was hoped that by taking the two children out of the ward and by the use of the serum the epidemic would be aborted so that there would be the shortest possible time until new patients could be admitted.

Nine days after the human immune serum had been administered the third case of measles appeared. This child had

been in the hospital twelve days. The course was mild especially as regards the photophobia, conjunctivitis and rash.

Five days after the third case just mentioned, the fourth child came down with the disease. This case proved to be unusually mild. Of the two remaining children, one, the oldest in the ward, gave a history of measles in early childhood; the other child, who had never had measles escaped getting the disease in this small epidemic, although he was repeatedly exposed to a case in an adjacent bed.

The source of this epidemic was traced to a child who had previously been a fellow patient in the ward. About 8 to 12 days before the first case appeared, this child returned to the outpatient clinic and the mother brought her up to the ward to see some of her old friends for a few minutes. The mother was heard to remark that while her child appeared much better she was not feeling so well because she had just gotten over the measles. There is little question therefore that the hospital epidemic followed the visit of this convalescent case.

Of the three susceptible children just mentioned, receiving immune serum early after the exposure to beginning measles, two contracted the disease and one was passively immunized. There is no doubt that the disease was influenced by being made much lighter. This was shown by the sparseness and transitory course of the rash, by the almost absent cough, the mildness of the eye symptoms, the shortness of the febrile period. The early character of the fever differed from unmodified measles in that it was not high and was characterized by a preliminary drop in temperature, the curve rising moderately as the mild rash appeared.

There have been a few reports in medical literature of attempts to modify measles by the use of adult immune blood. We have definitely prevented the disease in other instances by giving a transfusion of from 100 to 200 c.c. of parent's blood on the first day of known exposure. It would be much easier, more practical, and probably advisable to attempt the modification of measles in any family when a child is exposed, by the intramuscular injection of whole blood taken from parents, at least one of whom is sure to be immune and available for donating blood. Modification of measles may be a better measure than temporary passive immunization for the children of a family. The individual is thereafter immune and escapes with a light case and probably no complications.

We are not attempting to draw conclusions from these few cases alone but to call attention to the possibility of a trial of this method in the hope that it may be proven of value.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of The Kansas Tuberculosis and Health Association

Sleep, Relaxation and Fatigue

Sleep, so necessary to human existence, and especially so to the tuberculous, depends upon the individual's ability to relax. Relaxation in turn depends at least in part upon wholesome physiological fatigue. In recent issues of the Journal of the Outdoor Life there are three articles which summarize the latest scientific thought on this subject. Dr. Kleitman is Associate Professor of Physiology at the University of Chicago; Dr. Jacobson is Assistant Professor of Physiology at the University of Chicago; and Dr. Rice is Professor of Epidemiology at the University of Indiana School of Medicine. A study of their articles will repay the physician who is dealing with tuberculosis or any other type of "nervous" patients.

SLEEP IN TUBERCULOSIS

Sleep is generally looked upon as the most complete form of rest and is therefore of paramount importance to the tuberculosis patient. The sleeping person takes no notice of events and does not respond to changes in his environment.

The position of the body in sleep is of relatively little importance, since no position is held for any great length of time. The average time between stirs as determined by actual tests is about 10 min-

utes and the longest about one hour. Since these movements are of very short duration the total time one spends in moving about probably does not exceed five minutes in a night. Sleep, then may be looked upon as a period of almost complete muscular inactivity.

During sleep there is a decrease in activity of the heart, which leads to a lowering of the arterial blood pressure. These in turn decrease the danger of hemorrhage in disease. The absence of disturbing external influences also has a beneficial effect upon the circulation and respiration.

Sleep decreases the basal metabolism and tends to reduce the temperature. Muscular activity results in the production of large quantities of heat, which cannot be dissipated as fast as they are produced. This leads to a temporary rise in temperature. Through rest in bed and sleep one can hold the temperature at a lower level.

Practically all of the glands in the body secrete less during sleep than during the waking state. A notable exception is found in the sweat glands, a fact which is well known to the tuberculous. The cause of increased secretion of sweat in sleep probably represents an attempt of the body to get rid of an excess of heat accumulated because of insufficient ventilation of the space between the skin and the bed clothes and also of the bedroom.

There is decreased wear and tear of the living matter of the body during sleep and a consequent upbuilding, which is especially beneficial to the tuberculous. Under these conditions it is desirable to increase the duration of sleep as much as possible.

Everything tending to cut out sensation favors the onset of sleep. The newborn baby sleeps for eighteen to twenty-four hours a day, waking up every four or five hours because of hunger or discomfort but such a baby is blind and deaf for the time being and experiences none of those sensations that may disturb an adult. Sound sleep is promoted by regular hours and regular habits. Worry, fear, anger or undue excitement may produce restless sleep because they interfere with relaxation. When one cannot sleep, it is well for the sufferer from insomnia to give up trying and to resign himself to lying awake. It should be noted that the decrease in muscular, circulatory, respiratory and metabolic activities occurring in sleep is largely due to rest in a horizontal position, and lying quietly awake, therefore, is nearly as good as sleep.—*Sleep: Its Value in Tuberculosis, N. Kleitman, Ph.D., Jour. of the Outdoor Life, Feb. 1932, p. 89.*

RELAXATION IN TUBERCULOSIS

Observation of tuberculous patients during their daytime rest-hours generally reveals incompleteness of relaxation. Patients confined to bed for a long time show various forms of restlessness, particularly in the form of excessive unproductive coughing. Unrest shows itself also in the form of so-called mental symptoms or "nervousness." A more fitting phrase is "high nerve-tension."

In such so-called nervous symptoms, there is always contraction of muscles which occurs when the nerves leading to and from the muscles are in action. These muscular contractions, no matter how slight, can be measured and charted by a galvanometer.

When muscles contract, movements occur in tendons, joints and skin, producing sensations in these several regions, which may be grouped together under the name "Proprioceptive sensations." This term may be used to include all sensations aroused by changes within the body of the individual in contrast with those aroused by changes without, such as sound or light. Patients may be instructed to relax, and as they do so there is a corresponding diminution of proprioceptive sensations. Progressive relaxation brings about not merely muscular, but also mental rest.

Merely advising a patient to relax does not accomplish this desired end. He must be instructed just as he would if he wished to learn mathematics or golf. The patient who suffers from restlessness, insomnia, excessive mental activity or emotion, or from spastic states does not learn to be relaxed in a week or a month. A prolonged period of training is re-

quired during which the patient gradually learns to recognize tenseness, even if slight, and acquires the ability to relax until relaxation becomes automatic. In this way he learns also how to avert fatigue.—*Relaxation and Pulmonary Tuberculosis Edmund Jacobson, Ph.D., M.D., Jour. of the Outdoor Life, Apr. 1932, p. 209.*

FATIGUE, GOOD AND BAD

There are easily a half dozen physiological states that are commonly called fatigue. Yet none of them is the real thing in the strict sense of the word, such as the experimenter in physiology produces when he stimulates a muscle until it cannot act any longer. Lack of muscular exercise, with its consequent stagnation of blood and lymph may be one false form of fatigue. Another may be laziness or a similar state brought about by suggestion. Or boredom may be confused with fatigue. A man waking from a sound sleep may think he is tired out, but the process of stretching, yawning, or bathing soon drives his so-called fatigue away.

Fatigue may be described under two forms, physiological fatigue and pathological fatigue.

Physiological fatigue is one of the greatest boons in human existence. It results from the expenditure of muscular and mental energy in doing a task which one feels is worth while, and from which he receives a resultant satisfaction.

Pathological fatigue, however, may be positively devastating in its effects. The pathologically tired person is "too tired to eat," "too tired to sleep," "too tired to get out and have a good time." Nagging, scolding, and complaining, the pathologically tired person makes his or her home and family miserable. Such a state may be produced by many different things or combinations of things such as disease, worry, dissatisfaction or discontent with one's work or life and its outlook. Or, the task on which the individual is working may be as a tyrant crushing the life out of its victims. And again, the task may be unsuited to the particular worker.

It is exceedingly important that we should be able to recognize as early as possible the evidences of physical breakdown resulting from any of these or other forms of overstrain. Most of these signs are simply those of continued pathological fatigue. The following suggestions are offered:

(1) If you are too tired to enjoy your dinner at the end of the day;

(2) If you cannot relax after leaving the job;

(3) If you cannot sleep at night;

(4) If you despise your work and dread to begin in the morning;

(5) If you are getting cross and impatient;

(6) If you are jumpy and crack up easily when the unexpected happens;

(7) If you are losing weight without apparent cause;

(8) If you are losing your snap and pep;

(9) If you are worrying about things you cannot help;

(10) If you cannot laugh;—

It is time to make a change.

Fatigue—Good, Bad, and Indifferent, Thurman B. Rice, M.D., Jour. of the Outdoor Life, May 1932, p. 273.

THE PHYSCIAN'S LIBRARY

MODERN GENERAL ANESTHESIA: A Practical Handbook, by James G. Poe, M.D., Lecturer on General Anesthesia in the Medical and Dental Department of Baylor University; Anesthesiologist of Baylor Hospital of Dallas; Consulting Anesthetist to the Shriners Hospital for Crippled Children and Parkland Hospital, Dallas, Texas, etc. F. A. Davis Company, Philadelphia. Price $2.50.

The author of this book imparts valuable instructive information, only obtained by research, wide practical experience, and observation. The manner of administration, the advantages and disadvantages, indications and contra-indications, of the various anesthetic agents administered at the present time are thoroughly and authoritatively discussed. The book contains many high points not found in some of the larger books, valuable not only to the student but to the anesthetist, the surgeon, and medical profession as well.

Chapters on general anesthesia, and consideration of ether, nitrous oxide and ethylene-oxygen are complete and comprehensive. Preliminary preparation of the patient, and premedication are well taken care of. Special attention also is paid to local anesthesia, and especially to spinal anesthesia. The chart of the various stages of ether inhalation, together with one on nitrous oxide and ethylene are well worth the price of the book.

Anesthesia has been brought up to date by the author and those interested will find the contents instructive.—H.B.H.

PHARMACOLOGY OF THE MEDICINAL AGENTS IN COMMON USE, by Stanley Coulter, Ph.D., Sc.D. Flexible fabricoid binding, 254 pages, 3⅜ inches, green edges; published by Eli Lily and Company, Indianapolis. Price 50 cents per copy postpaid.

Heretofore there has been no comprehensive, small-size work on pharmacology. To meet this need Dr. Stanley Coulter, Dean Emeritus of the Purdue University School of Science, spent over three years in the preparation of a compact treatise on the pharmacology of the drugs now in common use by the medical profession. The subjects are arranged alphabetically for quick reference. Under each title there is a terse statement of the constituents of the drug, its physiological action, dosage, and brief mention of its more important therapeutic uses.

This Pharmacology is prepared with special attention to the needs of the medical student. The main part of the text dealing with individual drugs is followed by an appendix of tables and miscellaneous information useful to the medical student. In no sense is this book intended to supplant the larger standard texts on pharmacology. On the other hand, it is the hope of its author and the publishers that the use of the pocketsize book will so intrigue the student in the subject that he will be led to closer studies of the great authorities on pharmacology.—E.G.B.

NEW AND NONOFFICIAL REMEDIES, 1932, containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1932 Cloth. Price, postpaid, $1.50. Pp. 492. lvi. Chicago: American Medical Association.

The recognition of a preparation for inclusion in this book singles it out from the host of new products of the pharmaceutical manufacturers as being a worthwhile addition to the existing armamentarium of the practicing physician. To be thus distinguished it must be shown, under the impartial scrutiny of the carefully chosen group which is the Council on Pharmacy and Chemistry, that it has acceptable evidence of therapeutic usefulness and that it is marketed in accordance with the honesty and straightforwardness envisaged by the excellent Rules which have been the outgrowth of the Council's quarter century experience in appraising the merits of new drugs.

In accordance with its custom of keeping the annual editions of New and Nonofficial Remedies in the forefront of current medical thought, the Council offers in this volume the newly revised articles: Barbital and Barbital Compounds; Fibrin Ferments and Thromboplastic Substances; Liver and Stomach Preparations; Mercury and Mercury Compounds; and Ovary. Perhaps the most noteworthy new preparations admitted are: nupercaine-Ciba, a local anesthetic; pentobarbital sodium, a barbituric acid derivative; and iopax, a new preparation for roentgenologic use. All of the ovary preparations formerly described are omitted and none of the new standardized preparations are described, although the names Theelin and Theelol are recognized in the revised general article. Another change of importance is the classification of articles formerly listed as "Exempted" under the heading "Accepted but Not Described." There is the usual excellent index and the augmented Index to Proprietaries Not Included in N.N.R.

ANNUAL REPRINT OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY of the American Medical Association for 1931. Cloth. Price $1.00. Pp. 100. Chicago: American Medical Association.

This volume contains the collected reports of the action of the Council on Pharmacy and Chemistry on all products which have been found unacceptable or which have been omitted from New and Nonofficial Remedies during the past

(Continued on Page 383)

THE JOURNAL
of the
Kansas Medical Society

EARLE G. BROWN, M.D. - - - - Editor

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EDITORIAL

NON-LICENSED PRACTITIONERS

During the first six months of the present year, more than 50 death certificates signed by non-resident practitioners were received by the Division of Vital Statistics. The number is not large, yet especial interest is attached as approximately 50 per cent of these certificates were signed by physicians not licensed to practice medicine in the State of Kansas.

The Kansas Medical Practice Act does not exempt physicians licensed in other states who are practicing in this state other than: "any physician who is called from another state or territory in consultation with a licensed physician of this state, or to treat a particular case in conjunction with a licensed practitioner of this state and who does not otherwise practice in this state. . . ."

Apparently many physicians who practice without a license are unaware they may be subject to prosecution: "Any person who shall practice medicine and surgery in the State of Kansas without having received and had recorded a certificate under the provisions of this act, or any person violating any of the provisions of this act, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall pay a fine of not less than fifty dollars nor more than two hundred dollars for each offense. . ."

A final provision of the law is: "and in no case wherein this act shall have been violated shall any person so violating receive compensation for services rendered."

The Attorney General of the State of Kansas on July 20, 1931, rendered an opinion in regard to the validity of death certificates signed by non-licensed physicians: "It is therefore my opinion that a physician or surgeon who is not regularly licensed to practice medicine and surgery in the State of Kansas cannot legally sign death certificates, and that such certificates when signed by a non-licensed physician or surgeon, are invalid and should not be filed of record. . ."

Therefore, any physician who practices in Kansas without first having secured a license from the Board of Medical Registration and Examination violates the Kansas Medical Practice Act; is subject to prosecution for the violation; cannot legally collect his fees and the death certificate which he signs would be invalid and of no value in legal proceedings, if they should be instituted.

It is presumed at least the majority of physicians in active practice carry indemnity insurance. It has been suggested that the companies issuing such policies would not defend the physician in a malpractice suit brought in a state where

he was not licensed by the proper licensing board or department.

It would appear that for the best interests of all concerned, physicians who practice in the State of Kansas should be required to have a license from the Board of Medical Registration and Examination, regardless of their place of residence. In the absence of such a license, there is a possibility that some legal complication may develop.

One method which has been suggested in the solution of the problem is the enactment of a law providing for the annual registration of physicians.

"DOCTOR"*

The term "doctor" is so widely applied today that a diminishing dignity and prestige seems to reward those who affix it to their names. So common has the title become that those who have a proper right to it are finding it necessary to use their academic degrees to avoid confusion.

Webster defines the word "doctor" as: "(1) a teacher, one skilled in a profession, or branch of knowledge; a learned man; (2) an academical title, originally implying that a possessor of it is so well versed in a department of knowledge as to be qualified to teach; (3) one duly licensed to practice medicine; a member of the medical profession; a physician; a surgeon; (4) a repairer of anything."

The last is a colloquialism that by careless usage has grown to rival and even obscure the correct definition. Today doctors repair shoes, rub spines, sell eyeglasses, train prize fighters, comfort souls, treat corns or convert milady into a thing of wondrous beauty. Rare indeed is the gathering of even small size that does not sport at least one individual who answers to the title of "doc." It makes little difference whether he's a D.C., D.O., D.Ch. or a D.F., he's a doctor and the world, though ofttimes reluctantly, accords him respect.

Those of us who have full claim to the academic title modestly suppress our discomfiture at being classed with "repairers of anything" hoping the while that certain obvious differences will sooner or later assert themselves to set matters right. It appears, however, that this hope is not soon to be realized since the public is becoming more and more confused by an increasing host of false claimants to the title.

It has become necessary, therefore, for those who, by dint of many years of hard work, have earned the right to be called doctor, to shed some of their modesty and resort to the use of the full academic degree whenever the occasion demands.

In the case of physicians, M.D. should be used after the name on professional cards and signs and on scientific papers as a designation that the writer possesses a medical degree and is something more than a "repairer of anything."

THE PHYSICAL EXAMINATION AS AN INSTRUMENT OF RESEARCH

In research investigations, the United States Public Health Service states, the determination of the physical fitness or condition of a group of persons has proved a difficult problem. No simple solution is to be expected. It is necessary to piece together information from whatever source it may be secured, with an eye to the precise nature of the investigation itself. All possible means of measuring physical condition must be brought into play—mortality, sickness, and the general physical examination.

Advancement of scientific knowledge rests to a large extent on the improvement of technique. In no field is this

*Bull. W.C.M.S., Sept. 20, 1932.

more needed than in that of the physical examination. Today, although technique acquired with much difficulty is employed in making it, no two physicians really follow the same procedure. It must be made clear that the demands of analysis of data collectively are different from the absolutely necessary demands of clinical medicine. The physician, looking for definite pathological conditions, will probably not fail to note any really serious and practically determinable condition. However, if the results are to be used for statistical purposes, differences in standards of judgment become extremely important, because the minor degrees of impairment are so much in the majority.

Thus the standardization of the physical examination is fundamental in research work. The following principles are suggested:

1. No impairment can be regarded as susceptible of quantitative analysis unless we can be sure that the condition has been looked for in each individual, and checked as present or absent.

2. Most impairments encountered in examinations are matters of degree, varying from slight deviations from the normal to very serious conditions. These degrees should be indicated.

3. It is necessary that these degrees mean more or less the same thing to the different examiners. Special intensive training of the examiners is required.

4. Special stress should be placed on the quantitative aspects of the examination, because these may be most effectively analyzed.

5. The examination should be "blind" in so far as practicable—*i.e.*, the examiner should not know whether the individual is or is not exposed to a given hazard under investigation, or the degree of his exposure.

6. A thorough history is necessary, because the examination itself gives only a cross-section survey.

7. The presence of acute conditions at the time of the examination must be allowed for.

8. A minimum time should be set for each examination.

HEALTH PUBLICITY IN KANSAS*

Most State Medical Societies are giving serious consideration to the problem of informing the people in regard to the preservation of their health. The problem has two distinctive phases:

1. Private instruction by individual doctors.

2. Public instruction by medical societies, nursing associations, and other health organizations.

Physicians in private practice constitute the largest and most efficient group of instructors of the people in health subjects. Their work is efficient because the persons whom they instruct are in a receptive mood to carry out the advice. But at any given time physicians reach only that minority of the people who happen to be sick; and the subjects of their instruction are those applying only to that particular form of sickness which they may be treating. Yet the total amount of effective instruction imparted by family doctors is greater than that of all other groups. Physicians in general practice will continue to be the most important group of health teachers in a community.

Many states have organized systems of teaching pupils and students in schools and colleges with special emphasis on the individual in correcting physical defects and training the body in strength and grace.

*Editorial from the New York State Journal of Medicine, July 15, 1932.

The schools also give class-room instruction along all lines of health. The principal difficulty is that of the multitude of subjects which must be taught in order to touch upon the more common conditions which affect one's health.

Physicians realize the importance of applying the principles of school health instruction to the people generally. They take cooperative action through their County and State Medical Societies, and plan to give instruction on general health topics. The three principal means of instructions are the daily newspaper, the radio and the moving picture. The popularity and effectiveness of the hygienic instruction by these means are indicated by the fact that the owners of the distributing agencies find it profitable to use the instructive articles and pictures.

The leaders of the Medical Society of the State of Kansas felt that the continuance of the demand for health instruction was sure enough to justify their publication of a monthly journal of popular health. They had the precedent of the American Medical Association in publishing its popular health journal, *Hygeia,* which is now in its tenth year. With prompt courage the Kansas leaders prepared and issued the first number of their own State publication, *Folks*, in August 1931. The birth of *Folks* was told in several articles in the Journal of the Kansas Medical Society, which were abstracted in the New York State Journal of April 15, 1931, page 504, and November 1, page 1366.

The July 1932 issue of *Folks* completes Volume I, and affords an opportunity to judge its value. Its popularity in Kansas is indicated by the fact that its monthly circulation is 6,900 and is constantly increasing.

Each issue of the new magazine consists of sixteen pages slightly larger than those of the New York State Journal. Only two pages of advertisements are carried. The articles are short, each less than five hundred words, and an average of twelve leading articles are contained in each issue. Nearly all the articles are written by Kansas physicians. Explanations of common medical conditions predominate. The Journal reflects the prevailing thought and attitude of the practicing physicians, and is well suited to enhance the respect of the public for the medical profession.

Folks is successful from a medical point of view, and any physician interested in popular medical publicity will do well to send fifty cents, the price of a year's subscription, to the Kansas Medical Society, 700 Kansas Avenue, Topeka, Kansas.

EDITORIAL COMMENT

August births reported to the Division of Vital Statistics totaled 2,895. Osteopathic physicians attended 129, or 4.5 per cent; midwives but 17.

The Kansas State Dental Association in 1933, will sponsor a health poster contest for adults in addition to the one for grade school students. Announcement of this contest will be found in October *Folks.*

The Sixty-First Annual Meeting of the American Public Health Association will be held in Washington, D. C., October 24-27. The Willard Hotel will be headquarters. Members of the Kansas Medical Society are invited to attend this meeting.

Toxoid is gaining in popularity as an immunizing agent against diphtheria. Regardless of whether toxoid or toxin antitoxin are preferred, every physician should impress upon his families the ne-

cessity of immunizing the children as the one method of preventing diphtheria.

Henry H. Turner, M.D., Director of Clinics, Oklahoma City Clinical Society has announced that Dr. Walter Timme will substitute for Dr. Julius Bauer and Dr. C. J. Barborka replaces Dr. Frank Smithies. Note the list of speakers on page IX of the advertising section.

As far as may be determined, in most instances oral administration of killed B. typhosus or of its lytic products fails to lead to the development of antibodies. Ruge, of the University of Kiel asserts such oral vaccines are far from being ineffective. (Jour. A. M. A., Aug. 27, p. 767.)

According to the United States Department of Commerce cinchona bark purchased from Sumatra plantations by the Quinine Bureau during 1931 were small, although independent producers exported regularly. Total shipments fom Sumatra amounted to 734 tons in 1931, as compared with 1,014 tons in 1930 and 822 tons in 1929.

The next written examination of the American Board of Obstetrics and Gynecology will be held on Saturday, October 22, at 2 p.m. in 19 different cities of the United States and Canada. The next general, oral and clinical examination is to be held in conjunction with the meeting of the Pacific Coast Society of Obstetrics and Gynecology at Los Angeles, California, on December 7. For application blanks and other information, address Paul Titus, M.D., Secretary, 1015 Highland Building, Pittsburg, Pennsylvania.

W. G. Campbell, Director of Regulatory Work, U. S. Department of Agriculture has announced official termination of the case against the Greenhalgh Remedy Company, Salt Lake City, Utah, in which the firm was fined $100. It is reported the company violated the law in making interstate shipments of several drug preparations labeled with remedial claims for diseases for which they could have no value. Among the remedies, so-called, was one recommended for diphtheria. The court assessed an additional fine of $100 for falsely and fraudulently recommending this preparation as a cure for the disease.

The Twenty-Second Annual Clinical Congress of the American College of Surgeons will be held in St. Louis, October 17-21, with headquarters at the Jefferson Hotel. Franklin H. Martin, M.D., Director-General of the College advises an instructive program of operative clinics has been prepared by the local committee, of which Dr. Evarts A. Graham is chairman. Hospital standardization conferences under the direction of Dr. Malcolm T. MacEachern will be held during the first four days. On Monday evening the president, Allen B. Kanavel, M.D., will present his retiring address: "Intangibles in Surgery," and turn over the robes of his office to the incoming president, J. Bentley Squier, M.D., who will deliver his inaugural address: "Fundamentals of Specialism."

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THE PRESIDENT'S MESSAGE

To the Members of the Kansas Medical Society:

For the past several months, the president's office has received much literature bearing on the merits of the whole-time secretary and citing the experiences of states which have adopted same.

I find two opposing views within the state society; honest views coming from some of our most sincere minds whose desires and ambitions are totally wrapped up in the best accomplishments for the society. Your president has tried to make an honest study of this important question. In employing a full-time secretary we might make a great step in advance, or failure and dissension might follow. I have watched with much interest the Sedgwick County Medical Society; they feel they have succeeded. Yet others call attention to the large number of physicians who remain out of the society in Sedgwick County.

I wonder if we are ready for this advanced innovation. I have read much literature on the subject; the preponderance was in favor of the full-time secretary. Yet, I am quite unfamiliar with its workings. How little, then, must the average practitioner know who has made no study of the question.

It occurs to me there should be a free and open discussion in the Journal before this comes to a vote. I am desirous of knowing whether FOLKS is to be suspended. Personally, I am of the opinion FOLKS serves a very useful purpose. Is a medical journalist to be retained? Is a physician to be retained as secretary? If so, does the lay-secretary take orders from him between meetings of the Council? In other words, who is to be the acting executive authority at all times? I have always favored a layman as lobbyist for the legislature; he can be less modest and at the same time sincere.

Are we really ready for the employment of a whole-time secretary? Is the proper type of secretary easily secured? Will this cut down our numbers to hurt? Will it increase our budget to any marked degree?

To my friends who are so wholeheartedly and sincerely supporting this measure, I wish to state I am not opposed to it. I am truly asking myself these questions.

Respectfully submitted,

Iola, Kansas, September 25, 1932. P. S. Mitchell

President, Kansas Medical Society.

THE LABORATORY

Edited by

J. L. LATTIMORE, M.D., Topeka

Current medical literature, for the past several years has contained numerous articles in regard to carbohydrate metabolism. More recently articles have appeared concerning the relative sugar metabolism as compared with the phosphate concentration in the blood.

The work has developed a finding that has some clinical significance and should attract the attention of those physicians interested in diabetics, the diagnosis and prognosis. This article is presented and an endeavor made to summarize the important points contained in the numerous papers.

A study of the phosphate concentration of the blood will at times, enable the physician to advise the patient of a tendency to diabetic changes before the usual increase in blood sugar is observed. The diagnosis of pre-diabetic changes is one that is of great importance and a great service would be rendered to the patient if we could establish some procedure or find some physical change that would warrant us in making a pre-diabetic diagnosis, where with a moderate diet the patient might prevent the further development of diabetes.

In the normal individual upon administration of 100 grams of glucose (sugar tolerance test), the blood sugar shows an abrupt rise in less than one hour; thereafter a gradual decline to normal in three hours. In the diabetic, of course, this rise is abrupt but the decline does not reach normal at the end of four hours. The same normal individual upon administration of the glucose, with a blood phosphate of about 350 to 375 mgm. shows a very definite drop in the phosphate in less than one hour, then a gradual incline to normal within three to four hours.

To contrast the "Diabetic Phosphate" where the patient shows the initial phosphate drop, the return or incline is delayed beyond the usual three to four hours. To make a graph of these changes would demonstrate two opposite lines: the sugar in the diabetic rises abruptly then a gradual decline, while the phosphate shows an abrupt drop with a steady incline, both beyond the normal time limit.

Some workers have observed in some individuals where the sugar tolerance test is normal and the return to normal is within three hours, but the phosphate content of the blood does not return, the line is delayed. This finding has been interpreted by some workers as at least being significant of a pre-diabetic condition resulting in the advice to the patient along dietary lines on decreased carbohydrate intake.

The efficiency of the test has been variously found to be from 50 per cent to 75 per cent. In a group of individuals with either a family history of diabetes; another group of either underweight or overweight; or a group with the history of boils and carbuncles, the test was found to be of more use than in the group not presenting this history.

In considering the efficiency of the test it must be remembered, however, the phosphate metabolism is definitely disturbed in certain conditions of which hypothyroidism, hyperthyroidism, pituitary dysfunction and anesthesia are the most common.

With the present knowledge of blood phosphate, certainly the clinical application deserves further consideration in an effort to make a diagnosis of the large group of pre-diabetic individuals.

There is a much disputed question among laboratory workers as to the most reliable blood sugar method. In my experience I have found Folin-Wu a very dependable method. All laboratory workers should adopt one dependable micro-blood sugar method. At times, the patient objects to venous puncture; again the patient may be extremely difficult to bleed and in these cases, the micro method where a finger puncture will produce enough blood, is advisable. We have found the Byrd modification of the Folin-Wu method to be very dependable, simple and accurate.

RECENT MEDICAL LITERATURE

Edited by
WILLIAM C. MENNINGER, M.D., Topeka

SYSTEMIC REACTION TO BISMARSEN

Schoch discusses the case of a female, aged 25, with secondary syphilis in whom a course of bismarsen was given. Two-tenths gram doses were given twice a week. The patient received 16 injections without any ill effect, except slight local tenderness at the site of the injection, which usually last from two to three days. The seventeenth injection was given like the rest, but caused weakness, dizziness and nausea and on the following day a bismuth line developed on the gums. Two days later the patient was given 5 c.c. of 10 per cent sodium thiosulphate intravenously. At the end of a week the injections were continued and to present the patient has received 14 more injections with no after effects. It is likely that the untoward reaction which followed the intramuscular injection of bismarsen in this case, was due to the accidental introduction of the drug into one of the gluteal veins. Furthermore, the type of systemic reaction closely resembles that obtained with large doses of bismuth given intravenously. This report adds another treatment reaction to the known list of reactions produced by bismarsen.

(Systemic Reaction to Bismarsen: Schoch, Arthur G., The American Journal of Syphilis, 16:319-320, July, 1932).

MAGGOTS IN THE TREATMENT OF CHRONIC OSTEOMYELITIS, INFECTED WOUNDS, AND COMPOUND FRACTURES

In a series of 100 cases, including infections resulting from fractures, tuberculous and pyogenic chronic osteomyelitis, and an infected stump following repeated amputations, the author and his co-workers have found they have had 95 per cent cures. First we are given a discussion of the type of maggots used and their production, then the sterilization of the maggots and the culture controls are presented. For the treatment no case with hemoglobin less than 70 per cent or a red count under 4,000,000 is considered for operation. At operation the skin is prepared by green soap and sterile water. Antiseptics are neither used at time of operation nor about the wound when dressed. The skin may be cleansed by ether, or boric acid ointment may be applied because of the skin irritation. The success of the treatment does not alone depend upon the scavenger activities of the maggots. A series of experiments to be reported at an early date would seem to show that some additional agent is developed within the wound which is sufficiently powerful to overcome infection and permit the normal hydrogen-ion concentration balance to be established. This agent is believed to be a bacteriophage.

(Maggots in the Treatment of Chronic Osteomyelitis, Infected Wounds, and Compound Fractures: An Analysis Based on the Treatment of 100 Cases With a Preliminary Report on the Isolation and Use of the Active Principle. The Medical Bulletin of the Veterans' Administration, Livingston, S.K. Vol. 9:1-7, July, 1932).

EXPERIENCES IN THE TREATMENT OF MULTIPLE SCLEROSIS WITH QUININE HYDROCHLORIDE

Brickner presents an experience with the use of quinine hydrochloride in the treatment of sixteen patients with multiple sclerosis over a period of a year. The dosage has been 5 grains (0.32 Gm.), three times a day, by mouth, unless sensitiveness to the drug has necessitated the employment of a smaller dose. Frequently, patients have been unable to tolerate 15 grains (0.97 Gm.) a day at the beginning; in such cases the medication has been omitted, to be given again four days later. Usually 2½ grains (0.16 Gm.), two or three times a day will be tolerated, and it is generally possible to work back to three 5 grain doses. All patients on quinine therapy must be kept under continuous observation. The theory of quinine therapy rests on the hypothesis, suggested but not yet proved, that the lesions are caused by abnormal lipolytic activity of the blood, and that this activity may be due to the presence of an abnormal lipase. The results of this therapy are summarized as follows: Forty symptoms, most of them of short duration, have shown marked improvement. Thirty-three symptoms have not

improved; most of the latter were old. All of the improvements but one have been maintained at a fairly constant level up to the time of the writing of the article. Only three of the unimproved symptoms have regressed. The final estimation of the actual therapeutic value of quinine in this disease cannot be ascertained until more cases have been studied over a longer period of time. However, specificity in the effect of quinine is suggested by "(a) the relative fixity of the intervals between the initiation of treatment and the beginning of improvement; (b) the grouping, by duration, of symptoms which have and have not improved; (c) the fact that the most recent symptoms have improved not only the most promptly, but also the most completely."

(Experiences in the Treatment of Multiple Sclerosis with Quinine Hydrochloride: Brickner, Richard M.: Archives of Neurology and Psychiatry; 28:125-132, July, 1932).

INSULIN AND APPETITE

Four patients are reported by Nahum and Himwich. Each of these patients gained weight rapidly following the administration of insulin. As a result of the treatment, there was a great increase in the appetite, probably a considerable enlargement of the stomach capacity and the generation of great pleasure associated with eating. The authors present the following treatment: they began by administering 3 units of insulin subcutaneously every three hours. In order to avoid an insulin reaction, patients are urged to eat liberally ½ hour to ¾ of an hour after the injection. The dose of insulin is gradually increased until 10 units or even larger doses are injected every three hours. The patients are further acquainted with the nature of an insulin reaction and are urged at all times to have available carbohydrates in case an urgent need arises. In all four of the cases presented the gain in weight was not due to the water retention, but rather to actual tissue accretion. The relation of mental state to anorexia is considered, and their influence upon the insulin mechanism is traced.

(Insulin and Appetite. I. A Method for Increasing Weight in Thin Patients. Nahum, Louis H. & Himwich, H.E., The American Journal of the Medical Sciences, 183-608-613, May, 1932).

The Physician's Library

(Continued from Page 374)

year. It contains also the special reports authorized by the Council during the year and preliminary reports on articles which show promise but which are not yet ready for admission to New and Nonofficial Remedies nor suitable for general use by the medical profession. Among the reports on products found unacceptable are those on Thymophysin, a preparation of posterior pituitary and thymus, advocated as a safe and reliable means of accelerating delivery and marketed under false claims as to its essential action, as to its strength, and as to its safety for mother and child; on Bismuthoidal, claimed to be colloidal bismuth, and marketed with unwarranted claims of value in the treatment of syphilis intravenously; on Frenly Enema Cream, a complex, unscientific mixture, marketed under a therapeutically suggestive name with unwarranted claims of therapeutic value in a host of conditions; on Hayner's Normaline, an unoriginal preparation of formaldehyde and zinc chloride marketed under a non-informing name without a quantitative statement of composition on the label or in the advertising and with unwarranted and misleading claims; on Pernocton, a barbituric acid product marketed under a therapeutically suggestive name and with unacceptable recommendations for intravenous use; on Solution Normet, an unscientific mixture of citrates, marketed with unwarranted claims; on Alqua Water, Calso Water, and Alka Water, irrational, proprietary "alkalizing" mixtures marketed with unwarranted and misleading claims. The preliminary reports on Nucleotide K 96, a preparation of pentose nucleotides which has shown promise in the treatment of leukopenia, and on Carbarsone, p-carbamino-phenyl arsonic acid, proposed for use in amebiasis but needing further confirmatory evidence of value, are both timely and interesting. Perhaps the most noteworthy are the special reports. The Intravenous Use of Barbital Compounds and The Average Optimum Dosage of Cod Liver Oil. The former gives the Council's con-

sidered verdict on the dangers and limitations of the use of barbitals intravenously and the latter gives the result arrived at from a questionnaire sent to leading pediatricians.

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 12, No. 4. (Mayo Clinic Number—August, 1932). Octavo of 227 pages with 79 illustrations. Per clinic year, February, 1932, to December, 1932. Paper, $12.00; Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1932.

In this volume from the Mayo Clinic, forty members of their staff have given many interesting case reports and discussions. Included: are Mesenteric Cysts by Drs. Judd and Heimdale. Trimalleolar fracture of the ankle is suggested by Dr. Melvin Henderson as being more descriptive of the so-called Potts or Du-Puytren fracture. Drs. Walters and Priestly present some interesting urological cases. Dr. Stuart Harrington reports some pulmonary cases and their surgical management.

Transurethral resection of the prostate is discussed by Dr. Bumpus giving indications for treatment, technique and results of same. Dr. Charles Mayo and Dr. John V. Fauster discuss ovarian tumors in children with report of eight cases.

SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 12, No. 3. (Lahey Clinic Number—June, 1932) 299 pages with 123 illustrations. Per clinic year (February, 1932, to December, 1932.) Paper, $12.00; Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1932.

This volume presents clinical reports from the Lahey Clinic, all of which are well chosen and most interesting.

Dr. Lahey takes up management of biliary tract diseases, emphasizing the importance of early diagnosis to be followed by proper operative management and thus avoid the irreparable damage to the liver due to long standing infection. Drs. Clute, Veal and Wilkinson present cases whose discussion considers various phases of jaundice. Dr. Sise discusses in detail preoperative narcosis and also discusses blood pressure control in spinal anesthesia. A number of discussions appear concerning thyroid pathology and many other subjects of interest to all surgeons.—M.B.M.

ELECTROSURGERY, by Howard A. Kelly, M.D., LL.D., F.A.C.S., and Grant E. Ward, M.D., F.A.C.S., with 382 illustrations by William P. Didusch and others. W. B. Saunders Company, Philadelphia. Price $7.00.

This is a monograph worthy of the best traditions of Baltimore as a medical center. The wide use of this newcomer in the surgical field is impressed on the reader and its importance as an adjuvant to radiation in the treatment of malignancies is emphasized. That electrosurgery gives increased operability in advanced malignancies is shown by case reports and prompts Dr. Kelly to speculate on the possibility of some biophysical action of the current. Dr. Hugh Young has written a chapter on urology and Dr. T. B. Aycock one on the thorax. —W.M.M.

AMERICAN ILLUSTRATED MEDICAL DICTIONARY. A complete Dictionary of the terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology, Medical Biography, etc. By W. A. Newman Dorland, M.D., Member of the Committee on Nomenclature and Classification of Diseases of the American Medical Association. Sixteenth Edition, Revised and Enlarged. Octavo of 1493 pages, 941 illustrations, 279 portraits. Philadelphia and London: W. B. Saunders Company, 1932. Flexible and Stiff Binding, Plain $7.00 net; Thumb Index $7.50 net.

This revision includes several hundred new words most of which appear for the first time in any dictionary. The terms proposed by the Committee on Nomenclature of the American Bacteriologic Society have been adopted and the organisms are described under those names. The terminology of physical therapy has been brought into harmony with the suggestions of the Council on Physical Therapy of the American Medical Association. It is a correct guide to capitalization and gives the pronunciation of every word. Every word has a separate overhanging paragraph, making it easy to find any word quickly.

This edition has had the advantage of an exhaustive editing by the Staff of the American Medical Association, under the direction of Dr. Morris Fishbein.—E.G.B.

COUNTY SOCIETY NEWS

DOUGLAS COUNTY MEDICAL SOCIETY

The Douglas County Medical Society held its regular monthly meeting at the Lawrence Memorial Hospital, at 8:00 p.m. September 1, President A. J. Anderson presiding. Following the business meeting, Dr. G. A. Tooley, Medical Director of the Regional Office of the Veterans Bureau at Kansas City, Mo., addressed the society upon the subject: "Veteran's Care." Dr. Tooley presented his material in a very clear and concise manner handling the subject filled with detail in such a way as to prove intensely interesting. Dr. Tooley reviewed the various Veteran's Legislative Acts and their interpretation and outlined methods of procedure in specific cases.

Adjourned 10:00 p.m. until the second Thursday in October.

Lyle S. Powell, M.D., Secretary.

ELK COUNTY MEDICAL SOCIETY

The regular quarterly meeting of The Elk County Medical Society was held September 15 at 8 p. m. in the court house at Howard.

Members present were Drs. Day and Clark, Longton; E. A. Marrs, Sedan; S. F. McDonald, Severy; R. C. Hutchison, Elk Falls; F. L. DePew and R. C. Harner, Howard.

We had with us two visiting physicians: Dr. E. G. Sharp, Guthrie, Okla., and Dr. M. W. Hall of Wichita. The latter, our guest speaker, ably discussed, "Toxemias of Pregnancy with Special Emphasis on Eclampsia."

R. C. Harner, M.D., Secretary.

HARVEY COUNTY MEDICAL SOCIETY

The regular meeting of the Harvey County Medical Society was held on September 5, 1932, at the Harvey House at Newton, with twenty-five members present for dinner.

Following the dinner, with Dr. L. E. Peckenschneider presiding, the business session and program were held in the parlor of the same building. The secretary called attention to the fact that all school children including all the grades in the county as well as the pre-school children outside of Newton had been immunized against diphtheria in the last year but the pre-school children in Newton had not been immunized. After some discussion, a motion was made and carried that the chairman appoint a committee of three who should formulate a plan whereby the pre-school children in Newton may be immunized. The following committee was appointed: Doctors W. F. Schroeder, Chairman; R. H. Hertzler, and R. S. Haury.

Dr. V. E. Chesky of Halstead introduced several of the senior medical students from Kansas University who were spending the summer at the Halstead Hospital and were visitors at our meeting: Wendell Tate, Orval Needek, Otto Brantigan, Ralph Melton and Robert King.

The following program was carried out:

1. Fascial Space Infections of the Leg: Doctors M. C. Martin and R. S. Haury. This discussion was accompanied by practical demonstrations of the anatomy of the thigh and leg—Dr. R. S. Haury.

2. Diagnosis of Diseases of the Esophagus: Dr. G. A. Westfall. Dr. Westfall illustrated his findings with *x*-ray pictures.

3. New Method of Treatment of Prostatic Hypertrophy: Dr. V. L. Pauley. Dr. Pauley discussed the electric cautery resection method.

At the meeting on October 3, Dr. C. S. Kenney will give a report of his work in Harvey County. It is also planned to have Dr. Herbert J. Rinkel, of the Balyeat Clinic, Oklahoma City, give an illustrated lecture on some phase of allergy. The meeting will be held at the Harvey House, Newton, with dinner at 6:30 p.m. and the program at 7:30.

F. G. Bartel, M.D., Secretary.

RILEY COUNTY MEDICAL SOCIETY

The Riley County Medical Society met in regular session at the Wareham Hotel, September 12, 1932. During a short business meeting the secretary read a letter

stating the Jackson County Medical Society, Kansas City, Mo., reported Dr. Guy E. Owens a member in good standing. Dr. Colt, Jr., read correspondence regarding the nature of programs for the state medical society and also concerning modification of the Crippled Children's Law. No action was taken on either. The application of Dr. W. S. Yates of Junction City, was approved and he was elected a member of our society.

After dinner a moving picture illustrating skin cancer and the other diseases which may be confused with it, was shown and was appreciated by all.

The following guests were present: Doctors Ed C. Morgan, Geo. W. Bale and J. L. Dixon, Clay Center; L. R. King and W. S. Yates, Junction City; Benjamin Brunner and J. A. Hanks, Wamego; W. R. Morton, Green, and Marjorie Eberhart. Members present included: Doctors Nelson, Mathews, Reitzel, Cave, Swartz, Groody, Drake, Colt, Jr., Clarkson, Schoonhoven and Siever.

The society appreciated the services of Prof. L. F. Hall of the Educational Department, K. S. C., who furnished and operated the moving picture machine.

Chas. M. Siever, M.D., Secretary.

RUSH-NESS MEDICAL SOCIETY

The Rush-Ness County Medical Society met at the Latimer Hospital in Alexander September 15, 1932. Dr. Latimer presided. It was agreed by the members present the secretary was to write a letter of condolence to Mrs. Nothdurft and family. Dr. Nothdurft was a member in good standing and past-president of the society.

Dr. Paul Davis who has recently located at Ness City was asked if he wished to join this society by transfer from the Franklin County Medical Society. Dr. Davis advised he did and stated he would write the secretary of that society for a transfer.

Dr. C. D. Blake of Hays read a very interesting paper on: "The Diagnosis of Surgical Cases." This was an excellent paper and was well received. A general discussion followed.

Dr. Chas. Ewing of Larned gave a very interesting talk about the state medical board and the state society. He asked the members of this society to give their expression in regard to a lay secretary for the state society. This was discussed generally and a vote taken. The members expressed themselves that Dr. Hassig was an exceptionally fine secretary and voted against having a lay secretary.

Dr. L. C. Eberhart, dentist of La Crosse read an interesting paper on: "Focal Infection from the Mouth." This was an excellently prepared paper and was discussed thoroughly.

We had a fine meeting; an excellent lunch, which was enjoyed by all, was served by Miss Young and Fred at the hospital.

We had a good meeting and everybody seemed to enjoy themselves. The meeting was adjourned at a late hour. It was agreed the next meeting would be held the fore part of November at Dr. Singleton's office in La Crosse.

Those present were: Doctors Grissell, Latimer, Robinson, Attwood, Parker, Singleton, Blake, Coffey, Ewing, Scherr, Stockwell, Davis, Eberhart, Furbeck, and Chas. Pokorney, Jr., who is a junior in the medical school at St. Louis University this year.

W. Singleton, M.D., Secretary.

SHAWNEE COUNTY MEDICAL SOCIETY

The Shawnee County Medical Society met at the Hotel Jayhawk, September 5, the president, Wm. F. Bowen, presiding.

Dr. James A. Wheeler, of Newton, presented an interesting discussion on the subject: "Birth Injuries in the Newly Born." Moving pictures were presented showing a number of patients before and after treatment.

Two new members have transferred to the society: Dr. J. S. Fulton recently elected school physician, from Lyon County and Dr. Bertrand I. Krehbiel, from the St. Louis, Missouri society.

A special meeting of the Shawnee County Medical Society was held at the Hotel Jayhawk, September 21 to receive

the report of the Public Relations Committee in regard to a recommendation for the position of city health officer of Topeka. The committee recommended the appointment of F. P. Helm, M.D., former full-time health officer of Ottawa County, Oklahoma. The recommendation was approved by the society and forwarded to the city commission.

EARLE G. BROWN, M.D., Secretary.

SOUTHEAST KANSAS MEDICAL SOCIETY

We had a regular session at Independence, September 6, 1932, at 4:00 p.m. A joint paper was read by Dr. Earl D. McBride and Dr. E. Goldfain of Oklahoma City, subject: "Arthritis, Present Day Clinical and Treatment Conception, Including Vaccine Methods" (illustrated). Dr. Harry H. Turner of Oklahoma City: "The Anterior Pituitary Growth and Sex Hormones" (illustrated). Dr. Herbert J. Rinkel of Oklahoma City: "Allergy and the General Practitioner."

We wish to express our extreme appreciation to Drs. McBride, Goldfain, Turner and Rinkel, who gave us some very able discussions on the above subjects.

Our next meeting will be held in December at Parsons, Kansas.

L. D. JOHNSON, M.D., Secretary.

WYANDOTTE COUNTY MEDICAL SOCIETY

The first fall meeting of the Wyandotte County Medical Society was held at the Wyandotte County Court House, September 13, 1932 in joint session with the Kansas City Southwest Clinical Society and the Jackson County Medical Society of Kansas City, Missouri.

The societies were addressed by J. Albert Key, M.D., of Washington University, St. Louis, and by the aid of slides gave a most interesting paper on "Arthritis, Experimental and Clinical." His observations were compiled from a vast amount of work which was carried on in his own private laboratory.

Five monthly golf tournaments were held during the summer for the members of the Wyandotte County Medical Society. The average attendance was 18 and a lot of good fellowship was developed. All prizes offered were from assessments of those taking part so that no firm or individual was solicited outside the profession for prizes.

C. OMER WEST, M.D., Secretary.

DEATH NOTICES

Joseph Brewer Blades, Independence, aged 56, died July 25, 1932, in Madison, Wisconsin, of arteriosclerosis. He graduated from Kansas City Medical College in 1905. He was on the staff of Mercy Hospital, Independence, and a member of the Society.

Samuel J. Dobson, Edna, aged 66, dropped dead September 17, 1932, at Independence while walking from the home of a sister to the post office. Death was due to heart disease. He graduated from University of Illinois College of Medicine, Chicago, in 1896. He was a member of the Society.

Adolphus M. Doyle, Leoti, aged 90, died July 7, 1932, of cardiovascular-renal disease. He graduated from American Medical College, St. Louis, in 1882. He was not in practice at the time of his death and not a member of the Society.

Nathaniel Adair Kidd, Ellis, aged 43, died August 16, 1932, at St. Anthony's Hospital in Hays of acute nephritis and myocarditis. He graduated from University Medical College, Kansas City, Missouri, in 1909. He was not a member of the Society.

William Casper Cecil Stark, aged 81, died August 8, 1932, of cardiac decompensation and arteriosclerosis at Rotter-Knoop Hospital in Parsons. He was not a member of the Society.

Daniel H. Nothdurft, Otis, aged 54, died August 27, 1932, of pancreatic cyst. He graduated from Homeopathic Medical College of Missouri, St. Louis, in 1902. He was a member of the Society.

Max Miller, Newton, aged 75, died September 14, 1932, of heart disease while visiting a patient. He graduated from University of Iowa College of Medicine, Iowa City, in 1884. He was senior member of the Bethel Hospital staff in Newton and a member of the Society.

KANSAS MEDICAL AUXILIARY

MRS. J. THERON HUNTER, Topeka
Chairman of Publicity

Mrs. E. C. Duncan of Fredonia, President of the Kansas Medical Auxiliary called a state meeting in Hiawatha, September 26, for the purpose of giving the women of Kansas the opportunity of meeting Mrs. Walter Jackson Freeman, National President of the Woman's Auxiliary. Mrs. Freeman, an especially charming and capable woman, is a daughter of Dr. Chevaliere Jackson of Philadelphia, the father of the art of bronchoscopy.

There were 32 reservations for the luncheon at the Moreland hotel. Besides the women from Kansas who attended there were visitors from Buchanan County, Missouri, and Richardson County, Nebraska. Those attending from Missouri were: Mrs. C. H. Werner, county president; Mrs. H. W. Carle, secretary; Mrs. J. F. Owen, state treasurer; Mrs. Floyd Spencer, past president, and Mrs. Judson M. Hughes. Richardson County visitors were: Mrs. Geo. W. Egermeyer, president, from Shubert, Nebraska; Mrs. O. F. Lang, secretary; Mrs. Henry R. Minor, Fall City, Nebraska, vice president of the Nebraska State Auxiliary, and Mrs. Charles Hustead.

Mrs. Freeman has spent a week in St. Joseph, Missouri, on Auxiliary business. Kansas feels especially proud and honored in having Mrs. Freeman make this visit. She spoke on "The Needs of Auxiliary Progress," and her talk at the luncheon was most timely and pertinent. Mrs. Freeman says that the physician's wife should be more in sympathy with her husband's work and take more interest in it.

Mrs. McGlothlan had planned to be present at the meeting but found it impossible to attend and Mrs. Werner, the president of the Buchanan County unit, gave Mrs. McGlothlan's apologies to the group. The corsage intended for Mrs. McGlothlan at the luncheon was sent to her.

Mrs. Freeman urged that the ladies attend the National Meeting of Women's Auxiliaries to the American Medical Association at Milwaukee in the spring.

The California Auxiliary prize essay contest on "Educating the Doctor's Wife" closed some months ago. The first prize essay from the June California and Western Medicine is herewith submitted for the pleasure and profit of all readers:

Educating the Doctor's Wife

Mrs. Emmet A. Pearson
Los Angeles

Doctors' wives are assuredly made and not born, for it would be asking too much even of eugenics to produce an individual with the required set of unique inhibitions and reactions. Granted then that she is to be made, let us look into the educative processes that are to do the making. It might be well first to inquire as to when the education should begin, pre- or postmatrimonially, and lest there be any controversy on the subject, we shall consider as decisive the answer made by an eminent member of the medical profession when approached on this very point. Said he, "You'd better not educate them too much beforehand or they'll never marry doctors!"

Thus we would suggest an institute for doctors' wives, conducted as part of the educational program of the Woman's Auxiliaries. Membership on the teaching staff may be made honorary or punitive, as seems best in each auxiliary. Entrance requirements need include no evidence of previous folly save the statement that the applicant has married a duly licensed M.D. The fundamental courses to be required may be divided roughly into arts and sciences. Mathematics as such need have no place because the application of even simple arithmetic to a doctor's income is discouraging, not to say impossible.

The *sine qua non* of the whole course should be the study of the art of discreet speech. This should be extensive and intensive, and must give instruction as to how to cope with the following typical questions:

1. "What sort of an operation did Mrs. Dash have?"

2. "What should be done for infantile paralysis?"

3. "Does Mrs. Blank's little boy have anything catching?"

4. "What does your husband charge?"

There should be illustrative material with specimens from life, and these should include: (a) The doctor's wife who relates the errors made by other men who have dealt with her husband's patients; and (b) The chatty one who mentions her husband's patients by name and ailment, with treatment outlined.

The other art course we suggest as essential would be the art of medical reading and pronunciation. All good doctors' wives should be able to read professional treatises with a look of comprehension, even of enjoyment. This may take some practice. Triumph and reward will come, however, with the ability to see nonchalantly an esoteric word like "gastroenterostomy"!

The required science courses would also be two in number—phonology and relativity. By the former we mean instruction in the science of dealing with that black imp so entrenched in the physician's household—the telephone. The doctor's wife must learn when to address it just politely, when cordially, when firmly and crisply. She must know the proper occasions for replying, "No. May I take a message for him?" and, "I'll get in touch with him;" and, "The doctor is out and cannot be reached for hours!"

Relativity, as one might expect, would be an elusive, intricate course. It would deal primarily with time, although space and distance would often be involved. For instance, the course should train the doctor's wife to estimate instantly the relationship between the time set for any social engagement and the relative number of minutes or hours due to elapse before the appearance of any given doctor. She must learn to judge from the standpoint of hostess, when she will have a number of doctors to consider, as well as from the standpoint of guest, when it is her responsibility to produce her own doctor at the appointed place, if possible before the hostess' patience has vanished entirely. There would be many other phases of this invaluable course.

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Finally, we would suggest that there be no degrees granted. If ever a select auxiliary committee perceives that any doctor's wife has forgotten what she learned, she should be returned for further instruction. Generally speaking, the course will take a lifetime anyway.

TRUTH ABOUT MEDICINES

New and Nonofficial Remedies

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Ampoule Sodium Amytal, 0.25 Gm. (3¾ grains).—Each ampule contains the stated amount of sodium amytal (New and Nonofficial Remedies, 1932, p. 91) and is accompanied by a 2.5 c.c. size ampule of distilled water. Eli Lilly & Co., Indianapolis.

Ampoule Sodium Amytal, 0.5 Gm. (7½ grains).—Each ampule contains the stated amount of sodium amytal (New and Nonofficial Remedies, 1932, p. 91) and is accompanied by a 5 c.c. size ampule of distilled water. Eli Lilly & Co., Indianapolis.

Ampoule Sodium Amytal 1 Gm. (15½ grains).—Each ampule contains the stated amount of sodium amytal (New and Nonofficial Remedies, 1932, p. 91) and is accompanied by a 10 c.c. size ampule of distilled water. Eli Lilly & Co., Indianapolis.

Ampules Luminal-Sodium (Powder) 5 grains.—Each ampule contains 5 grains of luminal-sodium (New and Nonofficial Remedies, 1932, p. 85). Winthrop Chemical Co., Inc., New York.

Capsules Luminal-Sodium 5 grains.—Each capsule contains 5 grains of luminal-sodium (New and Nonofficial Remedies, 1932, p. 85). Winthrop Chemical Co., Inc., New York.

Luminal-Sodium Tablets, ¼ grain.—Each tablet contains ¼ grain of luminal-sodium (New and Nonofficial Remedies 1932, p. 85). Winthrop Chemical Co., Inc., New York.

Luminal-Sodium Tablets, ½ grain.—Each tablet contains ½ grain of luminal-sodium (New and Nonofficial Remedies, 1932, p. 85). Winthrop Chemical Co., Inc., New York.

Liver Extract No. 343, 110 Gm. Bottle.—Each bottle contains 110 Gms. of liver extract No. 343 (New and Nonofficial Remedies, 1932, p. 248). Eli Lilly & Co., Indianapolis, Ind. (Jour. A.M.A., July 2, 1932, p. 33).

Rabies Vaccine—U.S.S.P. (Semple Method).—This product (New and Nonofficial Remedies, 1932, p. 369) is also marketed in packages of seven vials, each containing one dose; and in packages of twenty-one syringes, each containing one dose. United States Standard Products Company, Woodworth, Wis.

Intracutaneous Tuberculin for the Mantoux Test.—This product (New and Nonofficial Remedies, 1932, p. 376) is marketed in packages of one 1 c.c. vial containing diluted tuberculin sufficient for ten tests. Each dose of 0.1 c.c. represents 0.0001 Gm. of tuberculin. The Gilliland Laboratories, Marietta, Pa. (Jour. A.M.A., July 30, 1932, p. 389).

Foods

The following products have been accepted by the Committee on Foods of the American Medical Association for inclusion in Accepted Foods:

White Pearl Egg Noodle (Fine) America's Standard and White Pearl Egg Noodle (Wide) America's Standard (Tharinger Macaroni Company, Milwaukee).—Egg noodles prepared from a mixture of durum patent flour, durum semolina and egg yolk. These are claimed to be suitable for all table uses for this type of product.

International Free Running Salt (International Salt Company, New York).—A table salt containing 1 per cent added calcium carbonate, which tends to preserve its "free running" quality. It is claimed to be suitable for all table uses of salt.

Asco Evaporated Milk and Farmdale Brand Evaporated Milk (American Stores Dairy Company, Dundee, Ill.).—An unsweetened, sterilized evaporated milk. These brands of evaporated milk are claimed to be for general baking, cooking and table purposes and for infant feeding. The mixture of equal parts of the evaporated milk and water is claimed not to be below the legal standard for whole milk.

Yacht Club Brand Corn Syrup with Cane Flavor (D. B. Scully Company, Chicago, packer; Bemis, Hooper, Hays Company, Oshkosh, Wis., distributor).—A table syrup with a corn syrup base (85 per cent) and refiners' syrup (15 per cent). It is claimed to be a syrup for cooking, baking and table use, and suitable as a carbohydrate supplement for milk modification for infant feeding.

Triple AAA Brand Pure Tomato Juice (American Packing Corporation, Evansville, Ind.).—Canned tomato juice retaining in large measure the vitamin content of the raw juice used. It contains a small amount of added salt. It is claimed to be a good source of vitamins A and B and an excellent source of vitamin C.

Kre-Mel Dessert (Coffee Flavor) (Corn Products Refining Company, New York).—This is a mixture of dextrose, corn starch, sucrose, flavored with vanillin and coffee. It is claimed to be a dessert powder for the simple preparation of table desserts.

Portola Filet of Sardines (K. Hovden Company, Monterey, Calif.).—Cooked, boneless, smoked Pilchard sardines (Clupea caeruleus, blue sardines) packed in olive oil in tins. These sardines are claimed to be a dietary source of iodine.

Ralston Wheat Cereal (Ralston Purina Company, St. Louis).—Essentially whole wheat with coarsest bran removed and with added wheat embryo; contains more than twice as much embryo as whole wheat; in granular form. It is claimed to be a quick cooking wheat cereal, valuable for its vitamin B and food iron content.

Steero Bouillon Cubes (American Kitchen Products Company, New York).—A mixture of concentrated meat extract, concentrated vegetable extract, salt and beef fat, flavored with celery seed and pimento and an extract of fresh celery, parsley and leeks; in cube form. The cubes are intended for flavoring a variety of dishes for the table and the preparation of bouillons, broths and soups.

Portola French Style Sardines (K. Hovden Company, Monterey, Calif.).—Cooked immature sardines (Clupea caeruleus blue sardines) packed in olive oil. These sardines are claimed to be a dietary source of iodine.

Lafer Bros. Golden Table Syrup (D. B. Scully Company, Chicago, packer; Lafer Bros., Detroit, distributor).—A corn syrup (85 per cent) flavored with refiners' syrup (15 per cent). It is claimed to be a syrup for cooking, baking and table use, and suitable as a carbohydrate supplement for milk modification for infant feeding. (Jour. A.M.A., July 9, 1932, p. 134).

Savita (Battle Creek Food Company, Battle Creek, Mich.).—A viscous mixture of extracts of brewers' yeast and vegetables (parsley, leek, celery, onions

and carrots), salt and saccharated iron oxide. Savita is claimed to have a meatlike flavor and to be especially intended for the preparation of broths, bouillons or gravy and to add flavor to many dishes. It is also claimed to be a rich source of vitamins B and G and of dietary iron.

P. P. P. Flour (Pure Paramount Patent) (Bleached) (The Concordia Milling Company, Concordia, Kan.). —A patent hard wheat flour for bread baking; bleached or unbleached.

SMACO (207) Powdered Half-Skimmed Milk (S.M.A. Corporation, Cleveland).—A powdered spray-dried half-skimmed milk hermetically sealed in an atmosphere of nitrogen. This product is claimed to be intended especially for infant feeding for use wherever a partially skimmed milk is indicated.

Portola Garnished Sardines (K. Hovden Company, Monterey, Calif.).—Cooked immature sardines (Clupea caeruleus, blue sardines) packed in olive oil with slices of pickle, carrot and pimento. These sardines are claimed to be a dietary source of iodine.

Amaizo Crystal White Syrup (The American Maize-Products Company, New York).—A corn syrup base, flavored with vanilla and packed in tins. It is claimed to be a syrup for cooking, baking and table use, as a carbohydrate supplement in infant feeding, and a wholesome energy food for children and adults.

Bonwheat (Wheat Embryo) (Vitamin Products Company, Tucson, Ariz.).—Moderately dried wheat embryo practically free from bran or other parts of the wheat berry; packed in paper bags in tins. The product is recommended as a food rich in vitamin B for raising the level of that vitamin in the diet. (Jour. A.M.A., July 16, 1932, p. 224).

Morning Brand Milk (Morning Milk Company, Salt Lake City, Utah).—Canned unsweetened sterilized evaporated milk. This brand of evaporated milk is for general cooking, baking and table uses and infant feeding. The mixture of equal parts of the evaporated milk and water is not below the legal standard for milk.

Kre-Mel Dessert (Vanillin Flavor) (Corn Products Refining Company, New York).—A mixture of dextrose, corn starch, sucrose flavored with vanillin and colored with U. S. Department of Agriculture certified color, and packed in wax-paper cartons. It is a dessert powder claimed to be for the simple preparation of table desserts.

Summer Girl Brand Golden Syrup (D. B. Scully Company, Chicago, packer; H. D. Lee Mercantile Company, Kansas City, Mo., distributor).—A corn syrup flavored with refiners' syrup. It is claimed to be a syrup for cooking, baking and table use, and suitable as a carbohydrate supplement for milk modification in infant feeding.

Danish Pride Evaporated Milk (Pet Milk Corporation, St. Louis).—An unsweetened evaporated milk complying with the U. S. Department of Agriculture definition and standard for evaporated milk. The product may be used for cooking, baking and other purposes as is ordinary milk.

Nestlés Food (Nestlés Milk Products, Inc., New York).—This is a mixture of malted whole wheat, malt, dry milk, sucrose, wheat flour, salt, dicalcium and tricalcium phosphate, iron citrate and cod liver oil extract. It contains vitamins A, B and D, and is claimed to be a food especially prepared for infants, children and convalescents.

Red Chain Flour (Extra High Patent)—Bleached (Universal Mills, Fort Worth, Texas).—A short patent hard winter wheat flour for bread baking; bleached and "matured."

McCormick's Mayonnaise (McCormick and Company, Inc., Baltimore).—Mayonnaise in glass jars;

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Kre-Mel Dessert (Caramel Flavor) (Corn Products Refining Company, New York).—A mixture of dextrose, corn starch, sucrose; flavored with caramel and vanillin. It is claimed to be a dessert powder for the simple preparation of table desserts.

Mity Good Golden Table Syrup (D. B. Scully Syrup Company, Chicago, packer; Fox River Grocery Company, Appleton, Wis., distributor).—A corn syrup (85 per cent) flavored with refiners' syrup (15 per cent). It is claimed to be a syrup for cooking, baking and table use, and suitable as a carbohydrate supplement for milk modification for infant feeding.

Universal Bakers Flours (Patent) (Bleached) (Universal Mills, Fort Worth, Texas).—A patent hard winter wheat flour for bakeries; bleached and "matured."

Meyer's Corn Syrup with Cane Flavor (D. B. Scully Syrup Company, Chicago, packer; Meyers, Walnut Ridge, Ark., distributor).—A corn syrup flavored with refiners' syrup. It is claimed to be a syrup for cooking, baking and table use, and to be suitable as a carbohydrate supplement for milk modification for infant feeding. (Jour. A.M.A., July 30, 1932, p. 390).

Accepted Devices for Physical Therapy

The following have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

G. E. Mazda Sunlight Lamps, Types S-1 and S-2.—According to the manufacturer these lamps differ only in size and they may be described as a combination of a bulb containing two tungsten electrodes that are connected with a tungsten filament, while in the distal end of the bulb is a small pool of mercury. The current first flows only through the filament, but as the temperature increases the mercury vaporizes and an arc is formed between the ends of the tungsten electrodes. The mercury arc between the electrodes produce the major portion of the effective ultraviolet radiation. The result of the combination produces radiations in the visible, infra-red, as well as in the ultraviolet zones. If the treatment is given at the stated distance between lamp and recipient the ultraviolet radiation emission is sufficient to be as effective in the prevention and cure of rickets as any other ultraviolet radiation emissions that are comparable to midsummer, midday, midlatitude, sea level, natural sunlight. General Electric Company, Incandescent Lamp Department, Cleveland, Ohio.

Westinghouse Mazda Sunlight Lamps, Types S-1 and S-2.—These lamps differ only in size and they may be described as a combination of a bulb containing two tungsten electrodes that are connected with a tungsten filament, while in the distal end of the bulb is a small pool of mercury. The current first flows only through the filament, but as the temperature increases the mercury vaporizes and an arc is formed between the ends of the tungsten electrodes. The mercury arc between the electrodes produces the major portion of the effective ultraviolet radiation. The result of the combination produces radiations in the visible, infra-red, as well as in the ultraviolet zones. If the treatment is given at the stated distance between lamp and recipient the ultraviolet radiation emission is sufficient to be as effective in the prevention and cure of rickets as any other ultraviolet radiation emissions that are comparable to midsummer, midday, midlatitude, sea level, natural sunlight. Westinghouse Lamp Company, New York. (Jour. A.M.A., July 2, 1932, p. 32).

Guedel Oxygen Meter.—The Guedel Oxygen Meter is designed to indicate visibly the volume of oxygen flowing into a therapeutic oxygen tent. It consists of a control valve to reduce and regulate the pressure of the oxygen from a supply cylinder and a sight-feed to indicate the amount of oxygen fed to a patient within a tent or therapeutic gas chamber. Foregger Company, Inc., New York. (Jour. A.M.A., July 9, 1932, p. 127).

Burdick Super-Standard Air-Cooled Lamp.—The Super-Standard Air-Cooled Lamp is the trade name for an ultraviolet radiation lamp. The ultraviolet radiation generator (the burner) used in the lamp consists of a quartz tube containing mercury in a vacuum. The mercury lies in a well at the cathode end of the burner. The other, or anode, end is fitted with a tungsten target. The metal lead-in wires are sealed in the fused quartz through intermediate steps of glass with decreasing coefficients of expansion. This forms a vacuum seal with a capacity for withstanding extremely high temperatures. The Super-Standard Air-Cooled Lamp is claimed to produce ample ultraviolet radiation to protect against and cure rickets in children. Burdick Corporation, Milton, Wis.

Super Alpine Sun Lamp.—The Super Alpine Sun Lamp is the trade name for an ultraviolet radiation lamp. The ultraviolet ray generator is a high-pressure low-voltage mercury arc enclosed in transparent fuzed quartz, suitably mounted, air-cooled, and designed for continuous performance in therapeutic general irradiation. The burner consists of an evacuated tubular vessel, constructed entirely of transparent fuzed quartz. Aluminum radiating fins maintain the mercury pools at an efficient operating temperature. Radiant energy is generated by means of an electric discharge through mercury vapor between sealed-in tungsten electrodes. The light energy emitted consists in part of ultraviolet, visible and infra-red radiations. The manufacturer claims that rotation of the reflector about the burner is a unique feature permitting the employment of the lamp for group irradiation. The Alpine Sun Lamp is claimed to produce ample ultraviolet radiation to protect against and to cure rickets in children, and to be a suitable generator of ultraviolet radiation to supply the wants of a physician practicing ultraviolet radiation therapy in accordance with the technic adopted by the Council. (Jour. A.M.A., July 30, 1932, p. 388).

Propaganda for Reform

Lambert Chemical Co., Inc., Exploiters of Phos-Phane.—Physicians have been approached by solicitors or alleged solicitors for the Lambert Chemical Co., Inc., of Washington, D. C. Physicians are invited to share in the profits which are to result through their prescribing of the firm's "Phos-Phane." Phos-Phane has not been accepted by the Council on Pharmacy and Chemistry. One of the forms which physicians have been asked to sign is the "Trade Acceptance" blank. When signed, this blank becomes for all intents and purposes, a promissory note by which the physician is buying so many bottles of Phos-Phane, agreeing to pay for them, and helping to get them placed in the local drug store on consignment. It must be quite obvious that any physician who goes into this scheme is violating one of the fundamental tenets of his profession. No medical man with a proper appreciation of his responsibilities will be financially interested in the exploitation of medicinal agents that he may be called upon to prescribe. (Jour. A.M.A., July 2, 1932, p. 35).

Comparative Studies of Mercurochrome—220 Soluble and Other Antiseptics.—The Council on Pharmacy and Chemistry reports that it has authorized publication of the report, "Comparative Studies on Mercurochrome and Other Antiseptics," by W. F.

von Oettingen, O. V. Calhoun, V. A. Badertscher and R. E. Pickett. In authorizing publication of this report the Council directed that it be explained that Hynson, Westcott & Dunning have agreed to revise their advertising claims in accordance with the findings of the paper and that the Council had voted to continue the acceptance of Mercurochrome—220 Soluble, and the description of the product appears in New and Nonofficial Remedies, 1932. From the report of von Oettingen, et al, it appears that Mercurochrome cannot be relied upon to destroy bacteria that have penetrated into the living tissue of a wound or of the skin; it could do no more than disinfect the surface and the necrotic tissue. This limitation is shared more or less by all antiseptics so that no substance can be properly called a safe and certain wound antiseptic. No antiseptic takes the place of thorough cleansing and surgical treatment. When these are not practical, for "first aid" or for very superficial wounds, antiseptics are probably better than no treatment at all. The antiseptic efficiency of mercurochrome is not outstanding, and for skin disinfection the aqueous solution is distinctly inferior. The absence of irritation may be an advantage, especially with open wounds, and for prolonged treatment; but its limitations should always be borne in mind. (Jour. A.M.A., July 9, 1932, p. 127).

The Dilemma of Listerine.—Not long ago The Journal reported the results of the study of Listerine made by the A.M.A. Chemical Laboratory and the Bureau of Investigation. As a result of this study the opinion was stated the product cannot be considered in any sense of the word a real germicide and the claims made for it were hardly justified by available evidence. Now, however, the manufacturer finds himself in a position where it is necessary for him to determine exactly what the product really is good for. Various preparations are taxed according to their uses. The product called Listerine is sold largely as a gargle for sore throats; used in this manner, it is a medicinal agent. Under the new revenue law, medicinal agents are free from tax. Listerine has also been widely advertised as a mouth wash. Mouth washes, under the new revenue law, are taxable at 5 per cent. Furthermore, it seems to have occurred to the agency which promotes Listerine that it has usefulness—at least from the advertising point of view—as an after-shaving lotion and its virtues for the control of dandruff are extraordinary. By such usage the product becomes a cosmetic or toilet article. The toilet goods tax is 10 per cent. Whether it pays 5 per cent or 10 per cent is for the authorities to decide, but if it really is to be helpful—although somewhat indirectly—to the people who buy it, the bigger the tax the better! (Jour. A.M.A., July 9, 1932, p. 138).

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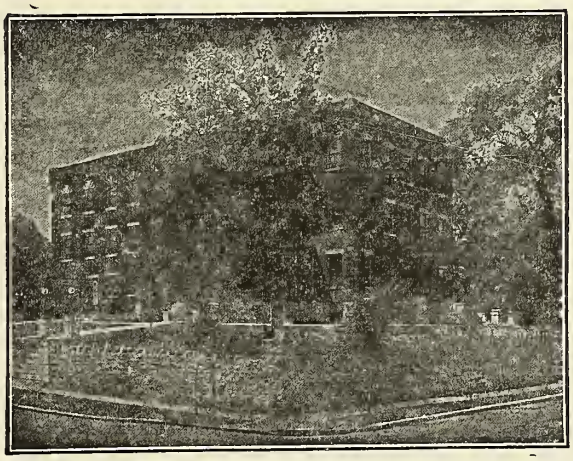

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ORIGINAL ARTICLES

A NEW MODIFICATION OF THE ASCHHEIM-ZONDECK TEST FOR PREGNANCY*

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The object of this paper is to review the recent literature on biological diagnosis of pregnancy and also present a modification of the Aschheim-Zondeck test which does not as yet appear in the literature. Of the biological tests for pregnancy, there are two main groups in use at the present time which embody somewhat different principals. There is one which is based on the presence in the urine of female sex hormone, with which the names of Hoffman, and Mazer are associated. The other test is the one known as the Aschheim-Zondeck test which depends on the presence or absence in the urine of anterior pituitary hormone.

The Aschheim-Zondeck test for pregnancy, as well as the Hoffman-Mazer, like so many other important discoveries in science, came more or less as an accident and a bi-product of other research activities. The search for and the study of sex hormones has engaged the attention of scientists for the past thirty years or so. For a long time the ovary was recognized as the sole source of the sex hormone or internal secretion, as it was then designated and was thought by most to be the only one, many theories being advanced as to its source, such as the connective tissue, stroma, lutein cells, or granulosa cells of the follicle.

Practical identification of an ovarian hormone dates from 1922 when Allen and Doisy injected an extract of pigs ovary into spayed rats and noted oestrus changes in vagina and uterus, and later standardized the potency by rat units.

Frank was then first to demonstrate oestrus forming hormone in the liquid content of the follicle, and later in urine of pregnant women; hence, the commercial product of Folliculin and oestrin.

In 1929, Corner[1] first proved the existence of the hormone of corpus luteum, which he called progestin, which regulated the progestional stage in the uterus. This brings us to the new and startling discovery of the inter-relationship between the internal secretions from the ovary and those of the pituitary gland. Knowledge that such a relationship existed, of course, dates from 1901 and the days of the famous Frölich syndrome. But it remained for Smith and Engle[2] working with alkaline extracts of beef pituitary and later Smith and Evans working with anterior pituitary transplants to produce oestrus in immature female mice.

Next comes the experiments of Zondeck and Aschheim,[3] in which they definitely ruled out the presence of this hormone (pituitary) in other glands than

FIG. 1
Shows a positive reaction in each ovary. However, a definite corpus lutea or a corpus hemorrhagicum in one side alone indicates a positive reaction.

FIG. 4
Shows negative reaction taken in situ for purpose of comparison.

*Read at the 74th annual meeting of the Kansas Medical Society, May 3, 4 and 5, 1932, Kansas City, Kansas.

the pituitary, also demonstrating the presence of this hormone in large quantities in the urine of pregnant women. They then had the information at hand which provided the basis for a practical test for pregnancy, which we now know as the Aschheim-Zondeck test.

Aschheim,[4] in his investigation of the subject of female sex hormone, found that large amounts of anterior pituitary hormone are excreted in the urine during pregnancy and that this urine when injected into the bodies of immature mammals, produces ovulation.

In March 1930, the Aschheim-Zondeck[5] test technique was published. Their technique consists of injecting varying quantities (.2 to .4 c.c.) of urine from the suspected subject, into immature mice, over a period of two days, each mouse being given six subcutaneous injections. After 100 hours the mice were autopsied and the results observed; they describe anterior pituitary reaction 1, 2, 3.

1. Maturation of follicles and appearance of oestrus.
2. Marked hyperemia and hemorrhage into enlarged follicles.
3. Formation of corpora lutea.

Now it is true that this technique is probably the most sensitive and delicate one we have, but there are a number of objections to its use for general clinical purposes, outside of a well equipped research laboratory. First, in order to have available an adequate supply of properly aged mice, a colony of around 3,000 animals must be maintained. Second, in order to be accurate the ovaries must be sectioned and examined microscopically; hence, 100 hours plus the sectioning time, enhances the time element to a considerable degree. Third, on account of the sensitivity of the test, unless a laboratory worker has had an extraordinary amount of experience, errors are bound to creep in. In their original report on 1,000 cases, Aschheim-Zondeck demonstrated an accuracy of 98.2 per cent. However, their high percentage of accuracy is not obtained by other in-

FIG. 5
Shows positive reaction in both ovaries in situ.

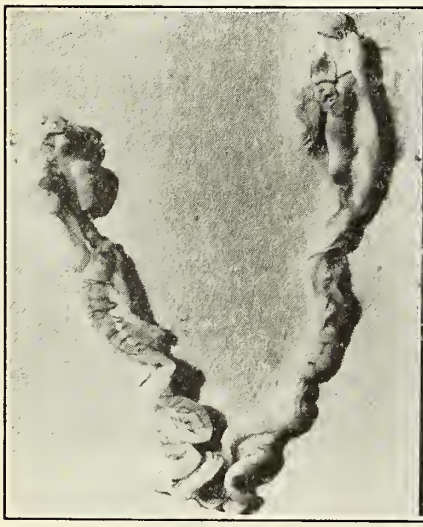

FIG. 2
Shows a positive and negative reaction side by side for purpose of comparison

FIG. 3
Shows definitely negative reaction in both ovaries.

vestigators; especially in general clinical laboratories, some reporting as much as 14 per cent of errors. Fourth, the mouse mortality is rather high (17 per cent according to Aschheim-Zondeck).

With this scientifically sound basis once established, however, the principal of the Aschheim-Zondeck test at once opened the field for a vast amount of research. Friedman[6] made the first notable contribution to the subject when he began applying the principal to rabbits. Recognizing the known fact that rabbits do not ovulate until after copulation, it is thus possible to study the effect of problem urine on the rabbit ovary free from corpora lutea and corpora hemorrhagica. His technique consists of injecting intravenously 5 c.c. of suspected urine into an adult female rabbit which has been isolated at least one month. His original report consisted of urine of 18 known pregnant women injected as described, from which he obtained 100 per cent positive results, and urine from 14 known non-pregnant women which gave 100 per cent negative results.

Reinhart and Scott[7] presented a report of 50 cases with correct results in 49, using rabbits of adult size (having been isolated at least one month) weighing not less than 1.8 Kg, injecting from 5 to 12 c.c. intravenously of catheterized a.m. urine, the ovaries being examined after 24 hours.

The next modification which was presented embodied the same principal, but substituted the use of immature rabbits in the belief that less opportunity for error would occur if ovaries could be studied which had not yet undergone changes of puberty. Credit for this modification is given to Schneider[8] who first reported 100 cases using young rabbits 12-14 weeks of age, in which he injected 5 c.c. of morning urine intravenously, obtaining results which from later clinical observation proved to be uniformly correct. He concluded positive tests could be obtained 18 to 21 days following the intercourse responsible for the pregnancy, and that the test became negative four days post partum.

Wilson and Corner[9] further modified the test by using fully adult female rabbits isolated at least one month. They inject 5 c.c. suspected urine intravenously. Sixteen hours later laparotomy is done aseptically and ovaries examined for corpora hemorrhagia. The abdomen is then closed and rabbit kept for future use.

Adair[10] and associates introduced the use of rats 25 to 30 days old, both male and female. Three rats are used for each test, one as control and two for test, each animal receiving two injections each for a period of two days, the results being read at autopsy. Positive results in the female are indicated macroscopically by the appearance of small hemorrhagic areas on the surface of the ovary. The accessories are also enlarged and congested in comparison with normal. In the male, positive results are indicated by premature development of seminal vesicles and prostate.

The tests which have thus far been discussed are those which embody the principal of anterior pituitary hormone, *i.e.* the hormone which has to do with changes in the ovary in the production of corpora lutea and corpora hemorrhagica.

The other group of tests as mentioned depend on the presence or absence of an entirely different hormone, the female sex hormone or oestrus forming hormone which acts on uterus and vagina in ovarectomized mammals, notably mice. The names of Hoffman and Mazer are associated with this test. The technique is that of injecting the problem urine into spayed mice, and observing animals for oestrus changes, *i.e.* a preponderance of non-nucleated epithelial cells and absence of leucocytes indicating positive results.

The question might be asked, and with reason, really why another modification to add to the already lengthy list of highly accurate techniques, we have available. It is felt by most general clinicians and especially by most men who do not have available their own laboratories, that most of the tests are too elaborate and errors too apt to occur to be trusted to an untrained worker and are too time consuming to be given the personal attention of the physician himself.

The modification which I wish to present has eliminated these undesirable features and is given for the general practioner of medicine as the one he may use himself, with a perfect assurance of accuracy and very little consumption of his time.

The technique of this modification was worked out by Dr. C. Alexander Helwig, in the pathological laboratory of St. Francis' Hospital and is as follows:

One female rabbit, three to four months old, is used for each test. The first specimen voided in the morning is collected in a clean, preferably sterile container and kept in the refrigerator. If cloudy, the specimen should be filtered; if alkaline, it is well to add 3 per cent acetic acid. On the first day, 8 c.c. of urine are injected intramuscularly into the gluteal region; on the second day another 8 c.c. in the same way. Forty-eight hours after the first injection, the rabbit is chloroformed and autopsied.

The result is read macroscopically. For a positive diagnosis at least one distinct, bulging corpus hemorrhagicum or one corpus luteum must be present in one ovary.

We do not recommend microscopic examination of the ovaries on account of the fact that through error in the age of the animal, or difference in the puberty age of some strains, microscopic hemorrhages are known to have occurred in the ovary which resulted in a false positive diagnosis. It has further been proven, by later clinical observation, that a reaction which cannot be read macroscopically always proves negative.

We have found that the intramuscular technique is quite as sensitive and will give positive results as early as will intravenous injections. There is also the added factor of simplicity. A certain number of failures will be sure to occur when injecting the ear veins of a young rabbit. Although the fact has not been clinically proven, it is felt that intramuscular injections are not so sensitive as to give false positive results in cases of hyperpituitary disturbances, and menopausal changes which have been known to occur in the original Aschheim-Zondeck test.

There are some precautions which are quite necessary to observe if success is to be assured. They are as follows:

1. The container must be absolutely clean, preferable sterile.
2. The female rabbit should not be more than 14 weeks old.
3. The animal must have been isolated at least one month.
4. The problem urine should not be over six hours old, or should be kept at ice box temperature.

RESULTS

A series of 65 routine consecutive cases are reported with results which have been proven by later clinical observation as correct with the exception of one case.

In addition to the routine pregnant or non-pregnant problem cases which proved to be correct as the case may be, there were a number worthy of special mention. The earliest case in which a positive reaction was obtained was three days following the date of the expected period, the test being strongly positive. Another case gave a strongly positive reaction two weeks following a missed period, and a negative reaction ten days later upon the occurrence of uterine bleeding, shortly afterward passing a mass of necrotic secundies. This definitely established the fact that the reaction became negative as soon as the product of conception had perished, but before it was expelled from the uterus. There was also a case of hydatid mole which gave an intensely positive reaction, followed by a negative three weeks following the emptying of the uterus. The case mentioned earlier as an incorrect result should be noted. There was, on gross inspection of the ovary some suggestion of engorgement, and some points which might be regarded as small corpora lutea. The ovary was sectioned and examined and found to contain some small hemorrhagic areas, and a positive reaction reported, but three days later a normal menstrual period ensued. For this reason it is felt that microscopic findings should be disregarded.

CLINICAL APPLICATIONS

We have all observed the rise and fall of laboratory tests for pregnancy for

many years, beginning with the Abderhalden test, antitrypsin test, antithrombin test, sugar tolerance test, down to the present hormone tests. We will also doubtless see this test fall before some new and more simple and accurate one, but for the present it seems a real advance, and a valuable contribution to our equipment for the diagnosis of various obstetrical and gynecological ailments; hence, it would seem well for one to become familiar with at least one technique. There is of course little need for the test in the ordinary case of normal pregnancy, since nature will decide the diagnosis in four to eight weeks, unassisted. Valuable information, however, may be gained quite early in cases of suspected ectopic pregnancy, in which a positive reaction may be obtained before rupture, and a negative reaction following tubal abortion or rupture. Differential diagnosis between pregnancy and rapidly growing ovarian cysts, and uterine tumors is made quite simple. Hydatid mole and chorionepithelioma also offer a rich field for use of the test; both conditions give an intensely strong reaction, and a positive test two weeks following removal of a mole gives direct evidence of persisting pathology, *i.e.* chorionepithelioma.

In conclusion I wish to thank Dr. Helwig for his valuable work in developing this technique, as well as the clinical staff of St. Francis' Hospital for the use of some of their cases in compiling this report. The intramuscular technique is offered to the general clinicians as probably the most simple, and one of amazing accuracy.

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ANGINA PECTORIS, MORE RECENT ASPECTS AND TREATMENTS*

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In the brief space of the past quarter of a century, there have come about great and far reaching changes in the economic phase of the life of man. Briefly there has come the perfection of the mechanized life. The radio, the talkie, wireless telephone, airships, submarines, and machines of all kinds, capable of doing almost the intelligent functions. I believe greater things have been accomplished in the economic scientific field than in the physiologic scientific field. The great field of the endocrine glands holds a wealth of potential far reaching discoveries, and the possibilities are unlimited for future progress in the field of medicine.

There has been unusual interest shown by the medical profession and likewise the laity in the problems of angina pectoris, and coronary heart disease. The medical profession is gradually awakening to the fact that angina pectoris is a very common disease condition, very frequently overlooked or misdiagnosed. It really is the cause of many fatalities hitherto not understood. Heart disease in its various aspects is today the most important cause of death and morbidity with which we as physicians have to deal. The *x*-ray and electrocardiogram have made it possible for us to diagnose much earlier and with more certainty the stages of heart disease. Earlier diagnosis and treatment gives the greatest of all physicians, mother nature, a chance to heal the pathological states which handicap health and the fuller life.

Angina pectoris is a paroxysmal symptom-complex characterized by more or less severe pain in the region of the heart, with a tendency to radiate to the left shoulder and down the left arm. It is frequently accompanied by a sense of terror and impending death. It was first classically described and named by Heberden in 1768 and since then has received rather intensive study. Angina

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pectoris means simply "pain in the heart." However it was recognized by Morgagni in 1707 in a case of aortic aneurism. Edward Jenner in 1779 perhaps first recognized the association of sclerosis of the coronary arteries with angina pectoris. Sir Clifford Albutt first advanced the theory that the anginal phenomena are due to distention in the first part of the arch of the aorta, and this is the seat of the disease.

There are two distinct phases of the phenomena; angina pectoris and coronary occlusion by thrombosis and embolism of the coronary artery. Typical symptoms of angina pectoris are its sudden onset, usually brought on by physical or mental effort, a feeling of constriction about the thorax, grave apprehensive pain in the left substernal and left precordial region. This pain usually radiates down the left arm and the sufferer has a realization that physical efforts bring on the pain and aggravates it. Signs of decompensation of the heart are usually absent and rest with the administration of the nitrites gives relief. In coronary occlusion on the other hand, especially by thrombosis, the pains and symptoms may be about the same but nitrites and rest do not give much relief. Morphia is usually needed for the pains which tend to persist and to recur. There are signs of shock, with a rapid feeble pulse, nausea, vomiting, leucocytosis, cardiac enlargement, pulmonary congestion with edema and a general symptom complex of a beginning decompensation of the heart. The mortality rate in coronary occlusion is very high.

The fact that patients many times in coronary sclerosis and seriously damaged hearts suffer no pain or angina, makes it plausible some other factor than organic lesion can be factors in the production of the anginal pain syndrome. Dr. J. F. Kalteyer, clinical professor of medicine at the Jefferson Medical College, in a paper read before the Interstate Post Graduate Assembly in Kansas City, Missouri, in 1927, brings forth the hypothesis that angina pectoris is a disease in which there is a lesion involving the region of the aorta just above the aortic cusps. He explains the nature of the stimulus to the nerve endings in the arch of the aorta brings on the sensation of pain. This stimulus is chiefly that of pressure whether from increased blood pressure in the arch of the aorta or pressure from adjacent organs due perhaps to meteorism in the stomach or bowel. The nerves conduct the impulse to the center in the brain and the sensation of pain is called forth. This nerve running as a component of the vagus is called the depressor nerve and was first discovered by Cyon and Ludwig in 1886. Any stimulus to the central end of this nerve causes a dilitation of the arterioles of the entire vascular system and a consequent lowering of the blood pressure. Hence it is justifiable to assume that nerve impulses ascending this nerve, that is toward the vasomotor center, act on this center to depress its activity and its influence over the whole arterioles of the body. This influence is more pronounced in the splanchnic area. These nerve impulses also excite the cardio inhibitory center and slow the heart rate. Thus there is suggested a reflex mechanism of which the depressor nerve is the afferent portion and the vaso motor and cardio inhibitory centers and nerves are the efferent portion. For this reason the depressor nerve has been termed the "reflex nerve of the aorta." Thus any nerve impulse originating in the arch of the aorta can cause a fall in blood pressure and in the heart rate. The phenomena of pain, lowered blood pressure and heart rate are found in the typical case of angina pectoris.

The pain of angina pectoris is a referred pain. Often over eating, gastric distention from flatulence, gall-bladder disease and exercise, brings on anginal pains which are referred about the sternum or into the right or left arm. These symptoms have a tendency to increase the pressure within the arch of the aorta or by other stimuli to stimulate the hypersensitive nerve endings in the arch. These stimuli carried by way of the component parts of the vagus nerve to the center in the brain could bring on the phenomena observed in angina pectoris.

Incidentally in many patients with hypertension, the anginal attacks are relieved if the blood pressure is lowered.

The lesion chiefly responsible for angina pectoris is usually that of coronary sclerosis. The vascular changes occurring with advancing years, those of syphilis, gout or chronic arthritis are classical findings and examples. Over indulgence in food and tobacco, and influenza seem to be in the background of many cases of angina pectoris attacks. Coronary occlusion and thrombosis are the two most hopeless aspects of angina pectoris. The pain is sudden, retrosternal and epigastric, more severe, lasts much longer, is not relieved by nitrites and often is difficult to control, even with large doses of morphia. Grave shock, signs of circulatory failure, edema of the lungs, feeble heart pulses, and a disturbance of the conduction system within the heart muscles are signs of coronary occlusion.

There are certain characteristic changes in the electrocardiogram of patients with coronary occlusion and the subsequent infarction of the muscle walls. Infarction of the right ventricle is most apt to give embolic manifestations in the lungs. Infarction in the walls of the left ventricle is more apt to give embolic manifestations in the central nervous system, the kidneys, the extremities and acute digestive symptoms such as nausea and vomiting, diarrhea and epigastric pains. Coronary occlusion certainly can give rise to many symptoms of surgical emergencies in upper abdomen. Such things as acute pancreatitis, gall-bladder disease, ruptured gastric and duodenal ulcers, and so-called "acute indigestion" have symptoms and signs very similar to coronary occlusion. It is well to think of the possibilities of coronary heart disease in a large number of these phenomena when found in the patient.

In the treatment of angina pectoris there are two distinct phases. The first is during the acute attack and the second is after the acute attack has subsided, if a kind providence permits the latter to happen. During the acute attack, absolute rest is imperative, to render the demands on the heart muscle at a minimum. Morphia should be given in sufficient doses to get this rest. An enema to empty the bowel should be given if possible and all food temporarily withheld. For weak feeble heart sounds, caffein sodio benzoate given intravenously to whip the heart up in the condition of the initial shock. Adrenalin from one to three c.c. given directly into the heart muscle in the fourth interspace has in some cases been a lifesaver if we are to believe reports.

After the acute stage has passed and whether or not what was done during this time was a factor in saving the life, there is much that may be done later. Perhaps it might be like a noted clinician said: "I simply dressed the patient and God healed him." The use of digitalis after the acute stage has passed is a mooted question. Many good authorities recommend the Eggleston method of digitalization hoping thereby to carry the heart through the crisis. Certainly if there is much coronary occlusion and a more or less degree of infarction, there is danger of rupture of a weak heart ventricle, when digitalis is used. It is well to remember we are dealing with a low blood pressure and especially a low diastolic pressure. Digitalis would therefore seem logical in the absence of any infarction to increase the flow of blood into the coronary vessels. If the main coronary vessel is very much occluded, much depends on the establishment of collateral circulation. Hence we would prescribe strict rest in bed for at least a month with a strict dietary regime. During this time the patient should be carefully told and fully educated as to his mode of living and the possibilities of the seriousness of the disease. Of course a thorough diagnostic investigation of the patient should be made and everything possible done to maintain the patient's general health. Measures to prevent atherosclerosis both general and regional should be instituted. Atherosclerosis is due to both hereditary and environmental influences. About all the physician can do to prevent these conditions is along hygienic lines such as the prevention of intoxications from food; removal of all foci of infection; normal

well balanced dietaries; avoidance of obesity and proper elimination through the kidneys, skin and bowels. Proper regular exercise in the open air and guarding against all types of excesses and strains, physical, mental and moral, and emotional. This is difficult to do because we observe the average hypertensive anginal type of patient is one who is usually very active, working under some high pressure or worry. You have great difficulty in slowing them down.

Freud uses ultra violet irridations over the whole body and claims to have gotten some very good results. His theory is that when the skin is exposed sufficient to give erythema reaction, there is eliminated a histamine substance into the blood stream which acts similar to the nitrites, in that they relieve vascular spasm. The erythema production also relieves central engorgement of the vascular system.

It has been observed the use of epinephrin hypodermically in persons subject to angina pectoris attacks, will produce with great regularity the typical angina pains. Levine, Ernstene, Carlton, and Jacobson carried out a series of experiments on a group of patients who were subject to anginal attacks and with the use of the electrocardiograph came to the conclusion that epinephrin can be a very valuable diagnostic agent but should never be used in the treatment, except in cases of emergency during the acute attack.

Heberden described a case of angina pectoris which showed a very extensive sclerosis of the coronary arteries at autopsy. This individual could get marked relief by exercising vigorously, "to work off the pain," when the attack began. Schwartzman conceived the idea there might be something given off of the skeletal muscles while actively at work, and which tends to abolish the attack. Consequently he used a muscle extract from healthy young animals and injected a solution intramuscularly every day. He reports some striking results. This worker held the view that angina pectoris has a striking resemblance to intermittent claudication and he used the muscle extract in this condition with what he reports a fair result. Of course intermittent claudication is very similar symptomatically to angina pectoris, to Oppenheim's vaso motor angiospastic; to Erb and Charcot's arteriosclerotic; and to Berger's thrombo-angitis obliterans.

During the past ten years, since the publication of a paper by Jonnesco, there has been considerable interest in the surgical means of relief for angina pectoris. These measures consist chiefly of resection of the stellate ganglion, section of the depressor nerve chiefly on the left side, cervical sympathectomy and various modifications in the cervical sympathectomy. The relief in some of the reported cases following these various surgical procedures is indeed striking; in others there has been no good accomplished. I think that whatever method we use for relief of the symptoms, that symptomatic treatment is only pallative, we must get deeper and remove the causes. Pain in all of the economy of nature is a benign thing, it is nature's warning signal, without which the organism would perish. Coronary occlusion would, it seems to me, be a contra-indication for surgical measures of relief.

Swetlow, Schwartz and others seem recently to have had some success of a varied nature in using the para-vertebral alcoholic block. This like the alcoholic injection for tri-facial neuralgia has to be repeated ever and anon as the effects wear off.

In conclusion it is best to assume the complex symptomatology of angina pectoris has a definite basis of cardiac pathology which is associated with hypersensitive sympathetic nerve endings in the heart and in the aorta, and thus the depressor nerve acting as the reflex nerve of the aorta is responsible for the pain and the other symptoms associated with the pain in the symptom complex of angina pectoris. Our most valuable diagnostic aid at the present time is a most careful and painstaking history, observance of symptoms, and ruling out all other possible causes. As yet the electrocardiograph is not of much value in

the diagnosis, except in coronary diseases or diseases which produce aberations of the conduction through the Purkinje system. Inversion of the "T" wave is suggestive in a diagnosis. The use of adrenalin as a diagnostic aid has possibilities when it is worked out and standardized. The treatment naturally resolves itself into two phases, that of the acute and that of the chronic stages. To relieve the acute and immediate attack, morphine given hypodermically in sufficient dosage to relieve, is our best agent. Nitro-glycerine in liquid form or hypodermically, and the use of amyl nitrite pearls are standard treatments. For the treatments after the acute stage has passed, we must use all the general health procedures at our command and institute them in our regime. Relief by surgery and by alcoholic block have not proven satisfactory, and the use of muscle extracts needs more substantiating evidence before we can concede its value.

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Conservative Treatment of Cholecystitis

J. Tate Mason and J. M. Blackford, Seattle (Journal A.M.A., Sept. 10, 1932), report the results of a study which has confirmed their impression that in well defined chronic cholecystitis not relieved by medical treatment the operative results are most satisfactory. However, contrary to usual surgical advice, chronic cholecystitis may, in approximately one-third of the patients, be successfully treated along medical lines. The risk of developing a surgical emergency or calamity while under medical treatment is not greater than is the risk in the best elective gallbladder surgery. Patients who have allowed their gallbladder symptoms to go on for a number of years until their gastric acids have become low or absent, with definite and permanent pathologic process of the liver and biliary ducts, cannot expect as complete relief from cholecystectomy as if they had accepted immediate operation. Hence the authors believe emphatically that when medical management fails to relieve promptly then operation should be urged on the patient. They emphasize the fact that patients with acute cholecystitis, empyema, jaundice or carcinoma were not included in their study.

A NEW SYMPTOM COMPLEX*

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I have just dismissed from my care at St. Joseph's Hospital a patient who had been ill for six weeks, whose case is representative of the type of cases which I am about to present to you tonight.

For ten years at least, every fall, winter and spring, I have seen these cases walk into my consultation room, or have been called upon to visit them at their homes, until I became convinced from study and observation of the constant signs and symptoms which are easily recognized and fairly constant, that I was dealing with a rather characteristic set of symptoms. All of these cases presented one main symptom, a characteristic cough, and one main sign, a rather typical condition found in the lower lobe of either the right or the left lung; never have I seen any other signs or symptoms or complications. And, just like Monyhan claims to be able to make a diagnosis of duodenal ulcer from the history of the case and from the characteristic hunger pain, so do I claim to be able to make a diagnosis in the class of cases under consideration by the one characteristic symptom, their cough. This cough is almost pathognomonic. It is an incessant cough, very harassing and aggravating, brought on and intensified by every deep breath the patient takes, so much so that it almost interferes with the examination of the lungs. It is such a hard cough that the patient feels as if he had to cough his lungs out in an effort to rid himself of the secretions which, because they are deeply seated in the base of the lungs, require a great effort to be brought to the surface. This secretion is muco-purulent in character, often quite profuse, at times scant. Seldom have I seen any blood mixed with it and then only a red streak of blood which gave the impression as if it was brought on by the violence of the cough and the resulting trauma to the capillary blood vessels. Only once have I seen a real hemorrhage occur in the course of the

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disease, and this five years ago in a boy 16 years old who afterwards under proper care and treatment made an uneventful recovery and has remained well ever since.

The disease might be called acute, though it is often of long duration. It occurs chiefly in the late fall and winter months, and is equally prevalent among both sexes. So far the great majority of my patients (and I have seen probably 75 in the past 10 years) have been adults between the ages of 25 and 50 years. Very few were younger and still less were older. My youngest patients were about four to six years old. It is thus seen that practically no period of life is exempt. It is equally frequent among all classes of people. There seems to be nothing in family history or personal history to justify the assumption of a predisposition.

The temperature in the beginning is as a rule slightly elevated, often only as much as 99½ or 100 and at times it goes as high as 101½. Frequently, however, I found the temperature normal throughout the course of the disease, and when it was elevated it remained so only for two or three days, to become normal and stay normal during the rest of the illness.

The pulse rate is little disturbed, and is as a rule, quite in proportion to the temperature.

The appetite is variable; frequently the patients do not feel at all sick, except for the nerve-racking cough which causes their heads to ache or gives rise to pain in the affected side.

The leucocyte count is slightly elevated; the highest I have found was 12,000; more often it was near a normal figure.

The disease is easy to diagnose, yet frequently overlooked. The physician takes the pulse and finds it normal and the temperature and finds it normal. He listens hastily to the anterior chest and possibly also to the upper part of the posterior chest without finding any abnormal or adventitious sounds, and refuses to think in the face of these normal findings there can be anything the matter with the patient's lungs. Yet, if one makes a routine practice to strip the patient and make a careful physical examination of the lungs, he will generally discover the seat and real nature of the trouble.

The following are the physical findings in these cases: At the base of either the right or the left lung (in the majority of cases the disease is absolutely unilateral and is confined to a portion of one lobe) we find a mass of small moist crepitant rales (pneumonia rales). The respiratory sounds over the affected area are always vesicular. Never have I found pure bronchial breathing nor any other adventitious sounds, except those crepitant rales which I have mentioned. These rales are always confined to the base of the lower lobe. Never did I find them in the middle or upper lobes of either lung, nor were there ever any signs of bronchitis in the rest of the respiratory tract. Dullness on percussion is either absent or very slight and if ever present, it is so for only the first few days. During the greater part of the illness the resonance over both lungs is about equal. Nor is there any difference in the whisper sounds or fremitus between the two lungs. Never have I seen any complications in the form of pleurisy or empyema, nor any other complications in any other organ. The *x*-ray at times shows a slight haziness in the affected lobe; otherwise negative.

The bacteriological examination of the sputum is not very characteristic. In it we find the usual flora as in many cases of bronchitis or broncho-pneumonia, such as staphylococci, micrococci catarrhalis, pneumococci, various bacilli and other nondescript bacteria.

From the physical findings I feel that we are dealing here with peculiar cases of broncho-pneumonia, most likely of "flu" origin presenting characteristic clinical signs and symptoms which puts them in a distinct group by themselves. The duration of the disease is anywhere from three weeks to three months, depending on the time of the year, the weather conditions and the care which the patient is able to give to himself.

The treatment is quite unsatisfactory,

in fact, I am not quite sure in my mind that the recognition of the true nature of the illness and the subsequent care which the patient takes of himself is of any great value or benefit to him, for in this climate at least the disease seems to last as long with treatment as without treatment.

Personally, I have never seen anything I did do the slightest good. Ordinary cough medicines will not alleviate the cough unless you prescribe a strong narcotic cough medicine, which keeps the patient half drowsy and dizzy. Rest in bed makes the patient more comfortable, but does not seem to cure the disease. Windows open or closed seem to have the same effect. I have had these patients on sleeping porches for three weeks at a time only to find at the end of that time the same physical signs, the same rales, the same cough, but slightly improved, as in the beginning of the treatment. I have tried creosote and guaiacol and Dover's powders and other cough mixtures. I have administered vaccines both stock and autogenous, only to have to confess they were utter failures. Only two remedies have I found to be of any real benefit, and they are "time" and "change of climate."

Ultimately, all of these patients get well, if you only wait long enough. But not until the last crepitant rale has disappeared does the cough stop. There is a distinct and almost mathematical relation between the rales and the cough. Better than time in its curative effect is change of climate. Send these people to San Antonio, Texas, or Florida or Southern California, or similar climates where they may live an out-of-door life and get the benefit of fresh air and sunshine the greater part of the day, and the disease will get well in as few days as it ordinarily takes weeks in this climate. I have treated case after case here without any benefit for two or three weeks, keeping them in bed or on sleeping porches, then sent them to San Antonio with the result that within three or four days I got a letter telling me of their wonderful improvement or complete recovery. One case I remember especially, the case of a prominent business man whom I had on a sleeping porch for fully two weeks without the slightest result, and who on my recommendation, went to Florida. He sent me a postal card in which he stated that he had completely recovered, even before he quite reached the point of his destination. Such are the subjective and objective findings and clinical characteristics of a symptom complex which I have observed for the last ten years. I don't know what name to give it. In Kansas City some physicians (Dr. P. T. Bohan, *f.i.*) call it "Wolf's disease."

DIABETIC COMA WITH ASTHENIC UREMIA

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Latent or asthenic uremia is a type of coma that develops after obstruction of both ureters or removal of both kidneys. The symptoms that usually accompany this condition are, loss of appetite, marked weakness, stupor, coma, and eventually death. The non-protein nitrogen of the blood shows a very marked increase as would be expected. The blood urea is likewise greatly increased. The blood pressure in this type of uremia is not increased as it always is in the sthenic variety of uremia of acute or chronic glomerulonephritis which type is usually ushered in with convulsions.

The type of uremia that was observed in our patient was the asthenic variety, the uremia without convulsions and without an increase in the blood pressure. To be sure, there was not an obstruction of the ureters or tubules or a removal of both kidneys in our patient, yet the suddenness of the kidney damage evidently produced more or less the effect of a mechanical obstruction and hence the uremia.

One of the most interesting cases of this condition reported is that by Pedro Escudero and Guillermo Schultz Ortiz[1]

in which the patient entered with a blood sugar of 480 mg. per 100 c.c. of blood and a CO_2 of 26 volumes per cent. As the blood sugar went to 40.5 mg. they considered her in "Coma Hipoglucemico." They find, however, the blood urea to be 75 mg. which finally goes to 120 mg. on the third day and then to 155 mg. on the fourth day. By the sixth day the urea is down to 32 mg. and the patient eventually recovers. Their patient received only 230 units of insulin in the first twenty-four hours.

Olive Christensen and J. E. Holst[2] report three cases of Diabetic Coma Complicated With Azotemia and one with Coma and Pregnancy in March, 1929.

Dinken and Metzger[3] have reported on the Changes in the Kidney With Insulin Treatment of Diabetic Coma Terminating in Uremia. They report chiefly the pathological findings in fatal cases with uremia.

Joslin, Root and White[4] in 1927, reported a case of diabetic coma that developed coma on the third day after having been twice in diabetic coma with a low CO_2 on the previous two days. Her non-protein nitrogen was found to have raised from 41 mg. on admission to 106 mg. at the time she was found to be in uremic coma, or as Joslin termed it, nitrogen retention coma.

I am wondering if the case which we are about to report is not an example of the patients referred to by Joslin[5] under the heading of "Discrepancies Between Clinical and Chemical Data," where he speaks of cases of coma who die despite the fact the blood alkalinity has returned to normal.

No doubt Joslin's Case No. 3877,[5] which was clinically in extremis with a CO_2 of 22 volumes per cent, was likewise a case with a high non-protein nitrogen although he does not mention her N.P.N. in the table. He does, however, record a 4 plus diacetic acid.

Case: A white American widow, 58 years of age, who lived with her married daughter, was brought into Mt. Carmel Hospital in profound coma, at 8:30 a.m., May 10, 1931. The patient had known for two years she was a diabetic. About a month prior to entrance she was in coma while on 30 units of insulin, daily. At that time she had received about 400 units of insulin in twenty-four hours. Following this she was given smaller doses and had been on about 20 units, daily, since that time.

On April 28, 1931, she had been sugar free at noon but had taken only a small amount of food, estimated as 30 grams of carbohydrate. At 5:00 p.m. she talked rather disconnectedly and had a "silly, starey, pinched" look and was lying rigidly in bed. About 7:00 p.m. she was warm and perspired freely. Eyes were open with no movement of lids, mouth was contracted, she was motionless and unconscious. She was given 10 c.c. of 50 per cent glucose, intravenously, and before the glucose was all in the vein she was conscious. From then until the day before entrance it seemed to be most difficult to keep her from insulin shock or coma. Her diet had been inadequate and she was getting insulin without a weighed amount of food so it is not surprising that she was experiencing such sudden changes in her blood sugar level.

At noon, on the day before entrance, she became nauseated. She had eaten breakfast but had taken no insulin and at noon sugar was found in the urine. She became unconscious about 5:00 p.m. At 6:30 p.m. she was given 10 units of insulin. Between that and 7:30 a.m., the morning of entrance, (thirteen hours), she had 350 units and had stayed in profound coma all night. She had taken some water by mouth during the night. No urine had been obtained after 3:30 p.m. Her bowels had moved seventy-two hours before and no enema had been given in that time. She was sent by ambulance, twenty-five miles, into Mt. Carmel Hospital, where on entrance we found her to be cyanotic. Her blood pressure was so low that we could not measure it. After three hours, however, the systolic pressure was 45 and diastolic 20. The pulse was irregular at about 116 per minute; respiration 28; temperature 95.4 degrees, per rectum. The respiration was not Kussmaul although the family stated that they could hear her breathe all over the house during the

night. The eye balls were soft, reacted only slightly to light. Mouth, gums, lips and tongue were dry. The heart sounds were faintly heard in the chest. There were some signs of arteriosclerosis in the vessels of legs and arms. The skin was dry. Along the outer border of both feet were red areas of what seemed like bruises under the skin, from rubbing on the bed. She had kept her feet and arms constantly in motion during the night, so her relatives stated.

Table No. 1 gives the findings of the blood during the first twenty-four hours in the hospital.

Table No. 1. Findings of the blood during the first twenty-four hours in the hospital.

5-10-31	8:30 a.m.	Blood sugar, 677 mg. CO_2, 5 vol.%
	11:30 a.m.	Blood sugar, 525 mg. CO_2, 9 vol.%
	1:30 p.m.	Blood sugar, 500 mg.
	3:30 p.m.	Blood sugar, 495 mg. CO_2, 10.1 vol.%
	5:30 p.m.	Blood sugar, 495 mg.
	7:30 p.m.	Blood sugar, 495 mg. CO_2, 20.2 vol.%
	9:30 p.m.	Blood sugar, 450 mg.
	12 midnight	Blood sugar, 274 mg.
5-11-31	230: a.m.	Blood sugar, 95 mg.
	5:30 a.m.	Blood sugar, 210 mg. CO_2, 31.4 vol.% Urea nitrogen, 60 mg.
	7:30 a.m.	Blood sugar, 133 mg.

On entrance, 1,000 c.c. of urine were obtained by catheter. The urine contained a large amount of sugar, some albumin, a few hyaline casts. Treatment was started within five minutes after she was in bed; 40 units of insulin were given, subcutaneously. Fifty grams of glucose, 20 units of insulin, 46 grains sodium bicarbonate, and 520 c.c. of water were given slowly into the vein.

Table No. 2 records the insulin and other medication she received after entering the hospital.

Her bladder was catheterized empty between each blood sugar estimation so that we had an hourly check on either the blood or urine. In this way we endeavored to avoid an insulin shock.

From the foregoing tables and history it is seen that on entrance her blood sugar was 677 mg. and her CO_2 combining power of the blood was 5 volumes per cent, but by 7:30 p.m. the CO_2 was up to 20.2 volumes per cent. It is also seen that she received 350 units of insulin from 6:30 p.m., May 9, 1931, to 7:30 a.m., May 10, 1931, before leaving home. She had received 660 units of insulin from time of entrance to 7:00 p.m. or a total of 1,010 units of insulin in twenty-four and one-half hours. Of this, 520 units were given intravenously while 490 units were given subcutaneously. She received 120 units the next three hours and only 90 units the following twenty-four hours.

The interesting feature to us is the fact that at the end of twenty-four hours after entrance her CO_2 was up to 31.4 volumes per cent and still she was in coma. This coma was not now a diabetic coma but a coma which has been thought of as uremic coma. Her blood urea nitrogen was increased to 60 mg. per 100 c.c. of blood. We know that the increase of blood urea nitrogen is not the cause of coma but the increase in urea is always present in uremia. Uremia is not always present, however, when the blood urea is high. The high blood urea nitrogen, nevertheless, gave us the clue for which we were looking and we were reasonably sure that it was only a matter of hours, if we kept our patient properly nourished and a proper amount of insulin was given, until she would arouse from her coma. Whether or not her blood contained the substance isolated by Foster[6] in patients suffering from uremia with convulsions we do not know, but he was unable to produce convulsions in animals unless the blood from which the crystaline substance was isolated came from patients with high blood pressure and convulsions. She remained in coma for thirty hours after her CO_2 had reached 20.2 volumes per cent at which level she would have been conscious had only diabetic coma existed. At no time during her coma did she show signs of convulsions or was her blood pressure increased. She came out of her coma rather suddenly, not unlike one awakening from a sound sleep, and began immediately to ask questions in a most orderly manner. She had been unconscious for fifty-six hours, during which time she had received 1,220 units of insulin, (680 units, intravenously, and 540 units, subcutaneously), 400 grams of glucose, 5,410 c.c. of water, 179 grains of sodium bicarbonate, 45 grains of caffein sodium

benzoate, 36 minums of adrenalin, 125 grains of chloral hydrate.

From the time the patient aroused from her coma she made a most satisfactory recovery with the exception that along the outer margin and heel of each foot where the bruised places had been, areas of mild gangrene developed. These healed slowly but very satisfactorily. She left the hospital on the ninth day with a diet of carbohydrate 109, protein 46.5 and fat 96.5. She was getting 50 units of insulin in four doses at six hour intervals.

Had this patient been treated for diabetic coma without frequent blood sugar and CO_2 determinations along with frequent examinations of the urine she would have been killed with insulin, for as stated above she was in coma long

Table No. 2. Insulin and other medication received after entering the hospital

Time 5-10-31	Insulin	Method	Glucose	Method	Water	Sodium Bicarb.	Caffein Benz.	Adren.	Chloral Hyd. Per rectum.
8:45 a.m	40 u.	Subcut.	50 gm.	Intrav.	520 c.c.	46 gr.			
9:00 a.m.	80 u. 40 u.	Intrav. Subcut.	30 gm.	Subpect.	1000 c.c.		7½ gr.	4 min.	
10:00 a.m.	40 u.	Intrav.			20 c.c.	18 gr.		4 min.	
11:15 a.m.	40 u.	Intrav.			20 c.c.	23 gr.			
11:25 a.m.							7½ gr.		
11:30 a.m.								4 min.	
12:10 p.m.	60 u.	Intrav.	7.5 gm.		250 c.c.	23 gr.		4 min.	
1:00 p.m.								4 min.	
1:15 p.m.	60 u.	Intrav.							
1:45 p.m.								4 min.	
2:00 p.m.			30 gm.		1000 c.c.				
2:30 p.m.							7½ gr.		
2:35 p.m.	60 u.	Intrav.	50 gm.		520 c.c.	23 gr.			
3:00 p.m.								4 min.	
4:30 p.m.	60 u.	Intrav.			20 c.c.	23 gr.			
4:45 p.m.								4 min.	
5:30 p.m.	60 u.	Intrav.							
6:30 p.m.	60 u.	Subcut.							
7:00 p.m.	60 u.	Intrav.			20 c.c.	23 gr.			
7:15 p.m.								4 min.	
7:20 p.m.							7½ gr.		
8:00 p.m.	60 u.	Intrav.			20 c.c.	23 gr.			
8:15 p.m.			30 gm.		1000 c.c.				10 gr.
10:00 p.m.	60 u.	Intrav.							
10:30 p.m.									15 gr.
5-11-31									
12:30 a.m.									10 gr.
2:15 a.m.			22 gm.	Intrav.	40 c.c.				10 gr.
4:15 a.m.									10 gr.
6:00 a.m.	20 u.	Subcut.	30 gm.		1000 c.c.				
7:00 a.m.	20 u.	Intrav.							
9:15 a.m.	20 u.	Intrav.	50 gm.		500 c.c.				
9:30 a.m.									10 gr.
9:45 a.m.	A nasal catheter placed in stomach and fed through the catheter. Pop, glucose, water, etc.								
11:30 a.m.									10 gr.
12:00 noon	10 u.	Subcut.							
1:30 p.m.									10 gr.
3:30 p.m.									10 gr.
4:00 p.m.	10 u.	Subcut.							
5:30 p.m.									10 gr.
9:00 p.m.	10 u.	Subcut.					7½ gr.		
9:30 p.m.									10 gr.
12 midnight							7½ gr.		
1:15 a.m.	Patient conscious for the first time since entrance.								
1:20 a.m.	10 u.	Subcut.							10 gr.

after her blood sugar and CO_2 were within limits of safety. Had one used only the clinical observation of coma a single extra dose of 40 units of insulin, after the blood sugar reached 95 mg. at 2:30 a.m., nineteen hours after entrance, would have sent her blood sugar below a living possibility unless it had been fortified by a very large dose of glucose, intravenously. It seems to us this case is example enough of the folly of trying to treat diabetic coma without the use of all available aids.

M. Labbe and R. Boulin[7] in the Bulletins et Memoires de la Societe Medicale des Hopitaux de Paris of February 16, 1931, concludes, "That after all, azotemia in diabetic coma is but a testimonial of its gravity. When it exists the patient has twice as slight a chance of recovery as when it does not exist, but it is not in the least demonstrated that in such a case it is of the uremia that the patient dies." Whether or not they were speaking of a case similar to ours, I do not know, but no doubt they were drawing their conclusions from fatal cases with high urea nitrogen content in the blood and marked acidosis which are not relieved of their acidosis and die from acidosis or starvation.

Statistics show us that even since we have insulin, diabetes continues to be responsible for a very large number of deaths and the death rate has actually not decreased since the introduction of insulin. Truly enough, gangrene takes its share but I fear that the real loss, even now, is from poorly treated coma. It can not be treated by guess even though some of our teachers would lead us to believe that one can give insulin about a unit a minute until the patient is out of coma and be absolutely safe.

Since we have written these lines, Joslin[8] has listed in a table all of his cases with elevation of the non-protein nitrogen of the blood exceeding 80 mg. per 100 c.c. In this list, which includes all of his 179 instances of coma in 154 individuals, he reports nine cases of which three patients recovered and six died.

Before we give our conclusions we want to say a little more about the amount of insulin that might be needed in diabetic coma. In October, 1930, one of us[9] reported a case of coma with a blood sugar of only .4 per cent yet the CO_2 was 5 volumes per cent. That patient received 730 units of insulin in twenty-eight and one-half hours with recovery. Our present patient, you will have noted, received 1,010 units of insulin in twenty-four and one-half hours which is 280 units more than our previously reported case received in four hours longer time.

Gray and Sansum[10] recently reported a case of Diabetic Coma with Marked Hyperglycemia and Recovery. While their patient had a blood sugar of .9 per cent the carbon dioxide combining power of the blood was not determined. They also report a blood pressure of 118 systolic and 88 diastolic. They state at the end of eight hours the patient roused slightly after taking 560 units of insulin. The man received 660 units of insulin in the twenty-four hour period. It is regrettable they did not obtain a carbon dioxide value because without knowing the CO_2 combining power of the blood one can not determine the real severity of the coma.

Let us compare the amount of insulin Joslin[4, 8, 11] now gives to his patients on the first day in coma with the amount he gave in his first series reported in 1925. In his 33 cases reported in 1925, one patient received 300 units of insulin in the first twenty-four hours while the rest received 270 units or less. The average was 132 units on the first day. In the 30 cases reported in 1927, one patient received 497 units of insulin the first day while one received 350 units. The rest received 295 units or less. The average was 166 units on the first day. In the 53 cases reported in 1929, one patient received 736 units the first day, while eight others received 325 units or more on the first day. The rest received 270 units or less. The average was 184 units on the first day. In the 74 cases reported in 1932, one patient received 1,020 units the first day. (This was a fatal case.) Eight cases received 500 units or more on the first day. The rest received

445 units or less. The average for the group was 252 units on the first day.

We see from the foregoing that the average daily amount of insulin on the first day in coma has been increased by Dr. Joslin from 132 units in the 1925 series to 252 units in the 1932 series. We conclude from this that more cases have come in with a very low CO_2 and that he has learned by his wealth of experience that large doses of insulin are life saving when they are indicated.

We should perhaps apologize for using sodium bicarbonate since Haldone, Wigglesworth and Woodrow[12] in 1924, proved that with the giving of alkalies more acid appeared to be liberalized. They also proved that the administration of alkalies interfered with the combustion of carbohydrate. We also respect the ideas of Dr. Joslin but just seem to be unable to make ourselves leave out the sodium bicarbonate when the CO_2 is below 12 volumes per cent.

CONCLUSION

In conclusion we will merely summarize the essential findings.

1. A case of diabetic coma is presented with the detailed laboratory findings and a somewhat detailed outline of the procedure followed.

2. On entrance the patient's blood sugar was 677 mg. per 100 c.c. of blood and her carbon dioxide combining power of the blood was 5 volumes per cent.

3. She had received 350 units of insulin in the twelve hours before entrance yet was in profound coma to the point of cyanosis and with almost an absence of blood pressure.

4. She received 660 units of insulin, most of it intravenously, in the next twelve hours, but continued in coma with a blood sugar of 495 mg. and CO_2 of 20.2 volumes per cent.

5. Thirty-six hours after she became unconscious her CO_2 was 31.4 volumes per cent and blood urea nitrogen was 60 mg. per 100 c.c. of blood and still she was in coma.

6. She was in coma fifty-six hours in all, during which time she had received 1,220 units of insulin, (680 intravenously and 540 subcutaneously), 400 grams of glucose in 5,410 c.c. of water, either intravenously or subpectorally, 179 grains of sodium bicarbonate, intravenously, 36 minums of adrenalin and 45 grains of caffeine sodium benzoate, subcutaneously, and 125 grains of chloral hydrate per rectum.

7. A partial review of the literature on the subject is included.

8. The necessity of giving plenty of insulin is again stressed. Also the importance of frequent blood sugar, urine sugar, CO_2 and occasional non-protein nitrogen determinations.

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LETTERS FROM A KANSAS DOCTOR TO HIS SON

John A. Dillon, M.D.
Larned, Kansas

My dear Boy:

Your letter received and your mother tells me you do need a new overcoat so that settles it. Were it not for the fact you would be peeved I would tell you just how many overcoats I had during adolescence and young manhood; and there wasn't a coon skin in the whole lot.

By pointed and direct inquiry I find the usual number of bills around town and also find the usual reluctance of your creditors to present statements to me. They much prefer to wait until you boys come back home and treat with you personally. This loyalty on their part is commendable. I have and have always had such an aversion to running up petty

bills it makes me uncomfortable to feel there are accounts outstanding against the family. I am trying to instill the idea in you boys that there is no reason for you to feel flattered simply because some one is willing to give you credit for something you do not need. If you will consult your text book on economics you will find it clearly shown on page one that this credit is thrust upon you by virtue of the fact your dad has not repudiated your obligations.

I note the wail of righteous indignation that is being put by your fraternity over the proposed taxation. I cannot say that your complaint will fall on entirely sympathetic ears in my case. Just why you plutocrats occupying a forty or fifty thousand dollar fraternity house should pay no taxes and the poor widow who is trying to get along by taking in a few student boarders should pay high taxes on her little home is too deep a problem for me. Or just why a young man who has lived all his life in a modest city or country home should find it necessary to lodge in one of these mansions with the Greek name and the American mortgage is also a question for debate. Now just a minute before snapping back at me—I have a brief for both sides of the case and were I in college again, would probably try to join one of the mysterious things. I do not know just how long I would wear the pin but probably after having been approached by a dozen or two brothers who were down on their luck I might decide to keep it locked up. I am a member of many organizations but I am ashamed to say I have long since discarded from my person skulls, links, compasses, hoofs, teeth, horns and feathers. There was a time I rattled and jingled with decorations when I walked. Elk teeth and moose horns bespoke my social affiliations and my mug in the barber shop carried identifying insignias. In some of these lodges I learned long lectures and saw beautiful work exemplified. It was very impressive to me as a young man to hear the solemn prayers and admonitions that were so reverently delivered by the local barber and liveryman. Later I wondered why these lodge men of such biblical intensity did not affiliate with the churches and repeat the prayers of the church with the same zeal. I found that outside of the lodge rooms unless occasion was offered for the wearing of regalia or the ceremonious display at the bier of a deceased brother, the average lodge man was and is a dud; and I am one of them.

The fraternity man usually remains one about so long following graduation especially after old "Sky High" hits him for one or two fifty or hundred dollar donations to take care of the second mortgage which is three years back on its interest. And what a lesson in economics it must be to the young members who pledge allegiance to a fraternity which is hopelessly in debt and going in deeper. I note with pleasure you speak of your instructors with respect and seem to appreciate their qualifications. I believe it fairly safe to assume that most teachers are selected for their abilities along certain lines. Proper co-operation with them will almost invariably bring desired results in an educational way. But not all students are able to co-operate and many assume the role of insurgents. Just why they enter college is a mystery to their neighbors at home. They are apt to stumble and flunk around for a couple years and finally end up in a cheap business college possessed of a second-hand typewriter and a few recipes for home brew. Later they may get a chance at some job but are unable to hold it by reason of not being qualified.

Personally, I am of the opinion that half the colleges could close and half the students could rest on their high school attainments and no ill result to the country at large would follow. Probably then we would gradually develop a practical high school course along business lines instead of our present method which seems to have as its ultimate aim the sending of students to college. However, what I think or what I advocate will probably have no tendency to upset our educational system so we will pass the subject with no further comment at present.

I have just read A. B. McDonald's story in the Kansas City Star relative

to the moral condition at Missouri University and am much pleased. After interviewing the president of the school and several of the house mothers he was convinced that the students of M. U. were able to satisfy their baser cravings by eating Ben Davis apples. I trust a like situation prevails at K. U.

Love,

DAD.

UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

Unusual Pathogenesis of Subphrenic Abscess—Case Report

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Department of Pathology

Accumulations of pus under the dome of the right diaphragm usually follow some suppurative condition in the peritoneal cavity. About 30 per cent of all cases arise following the perforation of a gastric or duodenal ulcer, and it has been estimated at least one per cent of all ruptured appendices result in subphrenic abscess. Liver abscesses and echinococcus cysts are at times forerunners of subphrenic abscesses, as well as such conditions as suppurative kidney disease, acute inflammatory lesions of the bowel and pelvis, and inflammatory disease of the lung and pleura.

Solitary cholangitic abscess is a relatively rare condition, and the possibility of its resulting in subphrenic abscess has been more or less disregarded. The case which we wish to present shows what we consider to be an example of such a condition, and the case also presents a chain of extremely interesting pathological phenomena which demonstrate the sequence of events which resulted in the subphrenic abscess, and the subsequent death of the patient. Although the true condition was only revealed by necropsy, it would seem that had the symptomatology presented by the patient been accurately interpreted, almost every step in the production of this remarkable series of pathological lesions might have been explained by the clinical findings.

CASE REPORT

The patient, Mrs. A., a moderately obese housewife, was 37 years old, and had a typical history of gall bladder disease. She was operated upon twelve years ago by Dr. J. F. Binnie. The gall bladder was drained, and, following this, she had intermittent upper obdominal distress, and four years ago following an acute attack of gall bladder colic with fever and slight jaundice, the gall bladder was removed. It was found to be covered with adhesions and contained stones. Soon after the cholecystectomy she began having attacks of pain in the upper abdomen, and developed a large hernia in the healed operative scar. In 1930, two years prior to death, she again entered the hospital because of abdominal pain and diarrhea. Beginning in August, 1931, she had four or five attacks of upper belly pain every week. In January, 1932, the hernia was repaired and massive adhesions were found tying the transverse colon, duodenum and some loops of the small bowel up into the subhepatic fossa. During manipulation of the adhesions a small tear was made in the liver margin, just adjacent to the falciform ligament. Three days after this operation the patient developed what seemed to be a partial intestinal obstruction. She also developed a low grade fever and an increased pulse rate, both of which gradually increased. At about this time she complained of pain in the back and side in the liver region. An x-ray examination at this time showed no evidence of a subphrenic abscess, although some fluid was found in the right chest and the pleura was thickened at the base of the right lung. The right chest was aspirated, and the fluid contained pus, but no organisms. The patient became progressively anemic and ran a leukocytosis. About 24 hours prior to death she had a sudden turn for the worse, and coughed up a large amount of purulent material. She then developed symptoms suggestive of pneumonia, and died.

Necropsy: The subject was a somewhat obese, anemic female showing a low grade edema of the legs and flanks. A healing surgical incision was found in

the right upper quadrant, the lower end of which showed some purulent drainage. When the abdominal incision was made, and the skin and fat reflected from the parietal peritoneum, a large infiltrating abscess, the size of a hand was encountered in the belly wall. This abscess communicated with a small sinus tract at the rib margin near the midline. This sinus led up under the ribs into a dense inflammatory mass in the right upper quadrant of the peritoneal cavity. When the peritoneal cavity was opened, the small bowel was somewhat dilated and waterlogged, and, in the terminal ileum about three feet from the cecum, a loop of ileum was found adherent to the anterior parietal wall, causing a sharp kink in the bowel lumen with apparent partial obstruction, since the ileum below this point was collapsed and contracted. The whole subhepatic fossa and the lower border of the liver were hidden in a dense mass of adhesions, and the liver edge was tightly adherent to the rib margin. After careful dissection of these adhesions, a small intrahepatic abscess about 4 cm. in diameter, was found (Fig. 1) on the border of the liver in the liver substance, just to the right of the falciform ligament. The walls of this abscess measured as much as 1 cm. in thickness. The abscess cavity was lined by old, reddish-gray granulation tissue. This small abscess communicated by way of a thin sinus into a huge subphrenic abscess (Fig. 2) which had covered the entire right lobe of the liver, lifting the diaphragm up as much as 8 to 10 cm. from the liver surface. This abscess was filled with bright yellow, purulent exudate and was lined by a yellowish-gray, purulent membrane about 4mm. thick, which could readily be peeled loose from the diaphragm and the liver capsule. In the summit of the diaphragm there was a small hole about 1 cm. in diameter, which communicated with an abscess cavity on the pleural surface of the diaphragmatic dome. This empyema was bounded by adherent lung, the whole base of the right lower lobe of the lung forming the sides and superior wall of the abscess cavity. In the center of the base of the right lung was another sinus tract which communicated with one of the smaller bronchi, producing a bronchial fistula, and pus could be squeezed up into the tracheal bifurcation from below. The base of the left lung was the seat of a bronchiogenic pneumonia, showing the typical nodular branching

FIG. 1

Photograph shows small cholangitic abscess on the margin of the liver. Arrow points to abscess with communicating sinus leading into the large subphrenic abscess above.

FIG. 2

Photograph shows the interior of the abscess cavity under the diaphragm. In the right lower corner a small portion of the cholangitic abscess may be seen with the sinus tract.

pattern of a bronchial distribution. These areas of consolidation were of the same bright canary yellow color as that of the exudate found in the various connecting abscess cavities. The common bile duct was widely dilated and the intrahepatic radicals also showed considerable widening. The only other gross finding of interest was a pregnancy of some five weeks duration.

Histological Pathology: The microscopic findings corresponded in all instances, with the naked eye impression. The cholangitic abscess on the edge of the liver showed a thick organizing wall, the deeper layers of which were made up of densé old inflammatory fibrous tissue. The walls of the subphrenic abscess were of a much younger type of granulation tissue and contained very little adult fibrous tissue, while the empyema cavity was very definitely of a much more recent origin. The bronchial fistula was lined by young granulation tissue and the area of pneumonic consolidation in the left lower lobe was apparently quite recent, since the exudate was very fresh. The liver presented a diffuse early fatty metamorphosis and there was a rather marked leukocytic reaction in the portal areas. Many of the small bile ducts and canaliculi were surrounded by large numbers of monos and polys were likewise present.

There was some tubular degeneration in the kidneys.

The uterine endometrium showed a typical decidual reaction and the breasts showed some budding acini.

Pathogenesis: A critical analysis of the foregoing history and pathological findings leads to the following interpretation.

This obese female patient, with a long history of gall bladder disease, first had a gall bladder drainage followed eight years later by a cholecystectomy. For a period of four years after this operation she continued to have some symptoms similar to those experienced during her former illnesses. At the necropsy the common bile duct and large intrahepatic branches were found to be quite dilated, a condition frequently followed by so-called "incontinence of bile" which favors ascending infection of the ducts. At the last operation, when freeing the adhesions from the liver, a small tear was made in this organ. It would seem logical to assume that a low grade cholangitis existed at this time and the tear in the liver favored the formation of the localized abscess which later extended up on to the surface of the liver, causing a large subphrenic abscess. This in turn perforated through the diaphragmatic dome, but the slow course of the perforation resulted in the formation of a localized pleurisy at the base of the right lung. Hence, when actual perforation took place, there was a walled off area ready to receive the exudate from below. The pus then penetrated the lung substance, connected with a small bronchus and was from here emptied into the major bronchus from whence a large amount was coughed up. However, in the process of emptying, some of the exudate was aspirated into the left bronchus to be drawn down into the base of the left lung, there causing an aspiration pneumonia.

Diagnosis: The pain in the flank, back and liver region should have led to a strong suspicion of subphrenic abscess, and when the fluid which was aspirated from the right chest was found to contain pus but no organisms, the evidence in favor of pus under the diaphragm was greatly strengthened. The lack of *x*-ray evidence in this case at a time when the abscess was certainly of considerable dimensions is difficult to understand. However, the firm union of the liver edge with the rib margin and an early accumulation of fluid in the base of the right pleural cavity may have been a factor in obscuring the picture. There were also other confusing factors to be considered. The absence of any known intra-abdominal infection at the time of the last operation would tend to lessen the possibility of subphrenic abscess. The small laceration of the liver edge was considered inconsequential and had been completely forgotten until the necropsy revealed the cholangitic abscess in the region where the laceration took place. The obvious symptoms of

partial intestinal obstruction, early in the course of the disease, tended to completely overshadow many of the more or less indefinite symptoms which might have indicated the formation of an abscess under the diaphragm.

Conclusions: A case of cholangitic liver abscess following trauma to an infected liver is reported. This cholangitic abscess resulted in the formation of a subphrenic abscess which perforated the diaphragm and caused a bronchial fistula. A resulting aspiration pneumonia took place in the opposite lung which caused the death of the patient. The pathogenesis and diagnosis of this interesting condition are briefly discussed.

HONORARY MEDICAL FRATERNITY

At a recent meeting in Chicago, the directors of Alpha Omega Alpha Honorary Medical Scholarship Society adopted the following resolutions in recognition of the eminent services of the late Dr. William W. Root, Slaterville Springs, New York, the founder of the society and secretary-treasurer since its organization in 1902:

1. That all stationery and official documents of the society bear the words, "Founded by William W. Root, 1902," and
2. That the annual lecture presented each year by a leading medical scientist, be known as the William W. Root Alpha Omega Alpha Lecture.

The present officers of the society are Walter L. Bierring, Des Moines, president; Austin A. Hayden, Chicago, vice president; Josiah J. Moore, 55 East Washington Street, Chicago, secretary-treasurer. Mrs. Root will continue as assistant secretary.

In addition to the officers, the directorate includes Ray Lyman Wilbur, Washington, D. C.; Waller S. Leathers, Nashville; Louis B. Wilson, Rochester, Minn., and Willard C. Rappleye, New York City.

The committee on extension and policy comprises Elias P. Lyon, Minneapolis, chairman; William Pepper, Philadelphia; Irving S. Cutter, Chicago; Frederick C. Waite, Cleveland, and Thomas C. Routley, Toronto.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of The Kansas Tuberculosis and Health Association

While tuberculosis has long been regarded as essentially a medical problem, surgery has made an outstanding place for itself in the treatment of this disease. Artificial pneumothorax is widening in use, as its indications become more definite. Phrenico-exeresis and the cauterization of pleural adhesions to facilitate pneumothorax are established procedures. Thoracoplasty, or the extrapleural removal of portions of the ribs, still has its risks but is of undisputed value in well selected cases. Dunham and Asbury, in the Journal of the American Medical Association, July 30, 1932, discuss some general and economic considerations of thoracoplasty. Excerpts of this article of interest to the general practitioner follow.

Thoracoplasty in Pulmonary Tuberculosis

Most of the literature on surgery in pulmonary tuberculosis has been written either by surgeons or by internists without mutual collaboration. Too frequently the surgeon does not have the "feel" of the case which the internist develops from his longer contact with the patient. The internist, on the other hand, may beguile himself into over-conservative methods. The cooperative effort of internist and surgeon, based on their combined medical and surgical experience, is probably the best arrangement. It is regrettable that for such cooperative work facilities in personnel and equipment are lacking in most sanatoria as well as general hospitals.

Brown reported that, after nine years, eight of thirty-six patients on whom thoracoplasty had been performed were dead, while the remainder were either working or clinically well. These patients averaged less than a year of treatment after operation. Nine patients were followed who had been advised, but who had refused, operation. Six were dead, two were still under care, and one had recovered after five years of institutional treatment. Those who died averaged five years of care in a public sana-

torium after the operation was refused. These figures are probably applicable to all institutions.

ECONOMIC PHASES

Certain tuberculosis patients live in a bed-ridden condition for years. They are a potential source of infection to all who come in contact with them. It is estimated that this group, though comprising a small percentage of the total number of patients, accounts for from 25 to 50 per cent of the patient-days of most sanatoria. A great saving would result were the sanatoria to be relieved of these chronic cases. Patients on whom a thoracoplasty should be done are mostly in this group. In the Hamilton County (Ohio) Tuberculosis Sanatorium patients are constantly examined by the internist and the attending chest surgeon, and those for whom surgery is indicated are removed to the Cincinnati General Hospital and returned after operation. The authors suggest a modification of this plan for all counties or sanatoria.

SELECTION OF PATIENTS

Why and when are surgical measures valuable in pulmonary tuberculosis? Spontaneous cures of the disease have been effected for centuries. Indeed, the natural tendency of tuberculous processes is toward healing. Rest in bed to reduce the depth and number of respirations and the circulatory activity, and to build up the general resistance is still our greatest aid in any case. Rest in bed constitutes the accepted treatment in most cases, either because the lesions are minimal or because both lungs are involved, contraindicating collapse therapy. If only one lung is actively involved, some form of collapse therapy should be considered, but it cannot be used in all cases.

The simplest form of collapse therapy is artificial pneumothorax. Pleural adhesions may prevent the introduction of air; or this method may have to be abandoned when adhesions cannot be further stretched or when new adhesions form. The adhesions attached to the chest wall hold open cavities, which jeopardize the uninvolved lung of the patient and the safety of every one in contact with him. In certain cases, adhesions may be divided by the Jacobaeus or open method, so that pneumothorax can be continued. If the adhesions are widespread and cannot be cut, or if a pure tuberculous empyema occurs, thoracoplasty must be considered.

Why do we do thoracoplasty? Primarily to do away with positive sputum. The field for thoracoplasty is limited to cases of involvement of one lung which show evidence of cicatrization, but in which the cavities are not closing and persistently positive sputum is found. Toxicity, as evidenced by fever and a rapid pulse rate, should be absent. The general condition of the patient must be favorable, although arrested lesions in the opposite lung, as well as secondary lesions, are compatible with collapse therapy.

The way to determine whether the patient can stand a major operation is to observe his effort syndrome. Although contraindicated in the average case, for purposes of such observations, the patient is got out of bed daily, the time and amount of exercise is gradually increased, and a record is kept of the rise in pulse and respiratory rate and the amount of dyspnea. The length of time required for the return to normal is noted. Other methods of investigating the heart should not be neglected. Cyanosis is a positive contraindication to surgery. Thoracoplasty will affect the bedridden patient as would a 50 yard dash.

COMMENTS ON TECHNIC

Phrenico-exeresis is done either in conjunction with thoracoplasty or as an independent procedure. If the patient has a one-sided lesion and pleural adhesions which cannot be cut, and if he is too toxic for more radical procedures, phrenico-exeresis is done. Owing to the 15 to 25 per cent compression of the lung from raising the diaphragm and the lessened excursion of the lung, further surgery may not be needed if the sputum becomes negative. As a rule, some improvement occurs. If there is doubt as to the condition of the good lung, phrenico-exeresis serves as a test and a preparation for thoracoplasty, and

can also be used after thoracoplasty when further collapse is needed to obtain negative sputum.

The preoperative preparation, the surgical technic and the post-operative care are lucidly described in the original article. Portions of at least ten ribs are removed subperiosteally as close to the transverse processes as possible in two stages. At the first stage the fifth to the eleventh ribs are removed. The second stage must not be unduly delayed since new bone forms quickly from the periosteum, but infection, such as acne or stitch abscesses, and wound drainage must be cleaned up before it is attempted. All possible speed and skill are desirable but gentle handling of the tissues is essential.

For two years the authors have been using acacia solution intravenously to combat the severe post-operative shock. This has the advantage of safety and convenience for it may be used on a moment's notice through a very small needle. The cost is trifling. An ingenious but simple "infusion radiator" for the purpose has been devised by a sister of the Good Samaritan Hospital.

"The only criterion of a successful thoracoplasty is a living patient with continuously negative sputum."

In one series of patients 35 per cent had continuously negative sputum beginning two weeks after the operation and all but two of the remainder had consistently negative sputum after a period from two to nine months. In another series 40 per cent showed negative sputum at once after operation and 40 per cent negative sputum after a period averaging seven months. All patients who had negative sputum after operation recovered, while those who continued to have positive sputum either remained sick or died.

Thoracoplasty in Pulmonary Tuberculosis, Kennon Dunham and Eslie Asbury. —Jour. A.M.A.—July 30, 1932.

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Back fence gossip has made many a prospective mother miserable, filling her with a dread of the "signs," which are spoken of with a hush and a long face, and the "markings," which have no more truth to them than fairy tales.—George S. Stevenson, November, 1932 Hygeia.

THE PHYSICIANS LIBRARY

MENTAL DEFICIENCY DUE TO BIRTH INJURIES, by Edgar A. Doll, Ph.D., Director of Research, The Training School at Vineland; Winthrop M. Phelps, M.D., Professor of Orthopedic Surgery, Yale University School of Medicine; Consultant on Birth Injuries, The Training School at Vineland; Ruth T. Melcher, M.A., Research Assistant, The Training School at Vineland. The MacMillan Company, New York, 289 pages. Price $4.50.

These workers have attacked an old problem in a new fashion. They approach their problem in a qualitative way rather than in a quantitative way. In this very well written book they make an intensive study of twelve cases of mental deficiency due to birth injuries, reporting their findings, their methods of treatment and the results. These writers present their experiences and report a very remarkable progress in the field which most physicians are inclined to regard as hopeless. It is something like a fresh breeze on a hot, sultry day to read the report of such a courageous effort in a field so cluttered up with radical operations and pessimism, particularly in this phase of birth injuries, namely feeblemindedness.

They outline their selection of subjects, give the detailed birth and developmental history, their report of mental tests and measurements, the mental growth and the physical therapy. These authors have taken the point of view that among birth injured subjects one has a kind of natural experiment in neuro-physiology for studying the relation of behavior to cerebral integrity. It is their hope that the extent and location of cerebral injuries associated with birth injuries may ultimately be correlated with the limitations of behavior and intelligence demonstrated in such cases as these. They append a bibliography and an index.—W.C.M.

MINOR SURGERY, by Frederick Christopher, S.B., M.D., F.A.C.S., with a foreword by Allen B. Kanavel, M.D., F.A.C.S. Second Edition. W. B Saunders Company, Philadelphia. Price $10.00.

This volume of nearly a thousand pages is primarily a book for the general practitioner and interne. It has been completely revised and presents in detail the field of minor and borderline

major surgery. Treatment has been especially well handled giving a wealth of detail in a simple direct style that might well be copied by other authors. The chapter on varicose veins is worthy of special commendation.—W.M.M.

CLINICAL ENDOCRINOLOGY OF THE FEMALE: By Charles Mazer, M.D., F.A.C.S., Assistant Professor of Gynecology and Obstetrics, Graduate School of Medicine, University of Pennsylvania; Gynecologist to Mt. Sinai and Northern Liberties Hospitals, Philadelphia; and Leopold Goldstein, M.D., Demonstrator of Obstetrics, Jefferson Medical College; Assistant Gynecologist to Mt. Sinai Hospital. Formerly Fellow in Gynecologic Research, University of Pennsylvania. 518 pages with 117 illustrations. Philadelphia and London: W. B. Saunders Company, 1932. Cloth, $6.00.

This book is a presentation particularly related to the recent advances in the hormonal activities, interrelationship, and therapy concerning the genital physiology of the woman. It is a scientific treatise written with many details, references, and summaries of the physiological actions, tests, and properties of the various endocrine hormones of the ovaries and their relationship with the pituitary, thyroid, adrenal and parathyroid glands. These authors are particularly interested in the menstrual disorders and their treatment, and the relation of the hormones to functional sterility, pregnancy, lactation and the menopause.

This book is very readable and impresses one with its exhaustive, scientific detail and the tremendous amount of work that these authors have done personally to further the knowledge of this subject. They present the newer known hormones of the ovaries and the regulating effect of the anterior pituitary hormone in much detail. For reference work this book can be highly commended because of its great detail. However, like any scientific work, the authors give the history and the various conflicting opinions about each one of these hormones; one must necessarily read considerable before he can find the final opinion of its present value. This disadvantage is largely overcome, however, by a short summary at the end of each chapter giving very briefly the sum total of our present knowledge. The authors present a list of references covering forty pages and a bibliography of ten more pages. The book can be well recommended as a source reference book covering the entire field of the female genital physiology.—W.C.M.

PSYLLIUM SEED: THE LATEST LAXATIVE, by J. F. Montague, M.D., Cloth binding, 170 pages. Montague Hospital for Intestinal Ailments, New York, N. Y. Price $2.00.

In the words of the author: "an attempt is made to render available to the inquiring public, both medical and pharmaceutical, the sum total of existing information appertaining to the latest of laxatives, namely, psyllium seed." Comments are made in regard to the chemical composition and characteristics, pharmacological features and the medicinal value of the properties of psyllium seed. One chapter is devoted to a comparison of psyllium seed, mineral oil and bran.—E.G.B.

POSTURE: ITS RELATION TO HEALTH. By Frank D. Dickson, M.D., Orthopedic Surgeon, Saint Luke's Hospital and the Kansas City General Hospital, Kansas City, Missouri. 118 illustrations. J. B. Lippincott Company, Philadelphia and London. Price $5.00.

The author of this volume has shown how important a relationship exists between posture and health, and in so doing has omitted complicating details which are as yet more or less speculative. He discusses the diagnostic value of posture as produced by certain diseases, and further how some diseases may be prevented by proper posture.

Postural exercises are discussed in detail and the value of same further emphasized.—M.B.M.

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THE JOURNAL
of the
Kansas Medical Society

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EDITORIAL

ANNUAL REGISTRATION OF PHYSICIANS

Dr. F. J. Engberg, Secretary, Minnesota State Board of Medical Examiners, has recently completed an analysis of laws in regard to the annual registration of physicians in the various states.[1] The information was secured from questionnaires sent to the secretaries of state boards and supplemented by official reports of the American Medical Association.

Seventeen states and the Territory of Alaska now require the annual registration of practitioners of the healing art. California was the first state to adopt an annual registration law, effective in 1917; Louisiana in 1918; Connecticut and Idaho in 1919; Iowa in 1924; New York and Pennsylvania in 1926; Nebraska, Oregon and Florida in 1927; Minnesota, Nevada and Wyoming in 1928; Colorado in 1929; North Dakota in 1931; Alaska, Georgia and Texas in 1932.

Nine states have some form of occupational tax in connection with which an annual registration of physicians is effected. These states are: Alabama, California, Delaware, Florida, Georgia, Mississippi, North Carolina, Utah and Virginia. In reality, therefore, twenty-two states have laws requiring physicians to register annually.

From information received by Dr. Engberg, it was determined more than thirty of the secretaries favor an annual registration law. Without this law, the medical board has only a record of those who have been licensed to practice in the state, and consequently no information in regard to a physician if he should remove from the original address given on his application for license.

Fees for medical board registration varied from $1.00 to $10.00. Occupational taxes ranged from $3.00 to $75.00.

The practical application of the registration law is well shown in the case of Minnesota:

"Previous to the enactment of the present law requiring yearly registration, prosecutions of those practicing in the state without a license were almost unknown, largely because of lack of funds. In the last four years, however, the Board has investigated 213 cases and obtained fifty-four convictions out of fifty-eight cases brought in court."[2]

The Kansas Board of Medical Registration and Examination is supported wholly by fees paid by applicants for examination or reciprocity. Funds, therefore, of the board are necessarily limited and only a small sum remains after payment of the expenses of the two meetings.

1. Federation Bulletin, March, 1932.
2. Minnesota Medicine, June, 1932.

The enactment of an annual registration law with a small fee would be beneficial in many ways:

The board would have a record of those who were actually licensed to practice in the state.

A directory could be published and furnished each physician as well as law enforcement agencies. If a physician located in a community, reference to the directory would determine if he was licensed to practice his profession.

The enactment of such a law would not only protect the public but the practicing physician as well.

A fund would be provided for the use of the medical board in discovering unlicensed practitioners and enforcing the medical practice act.

DISCUSSING TREATMENT WITH A PATIENT

Physicians are frequently confronted with the problem as to just how much should be told a patient in regard to the medicines which are prescribed in the treatment of a case. To secure best results, the physician must have the cooperation of the patient. In return, the physician should make a sincere statement to the patient. However, there are times when a physician may be too explicit in his statement.

A recent case in a midwestern state may be used as an example. A physician in the treatment of a patient used strychnine and galvanism for a paralytic condition of several months duration. In the discussion of the case the physician informed the patient of the nature of the medication. Suit was brought by the patient against the physician alleging disability which the complaint states was due to the effects of the strychnine, a deadly poison.

Commenting editorially on the case the *Journal of the Indiana State Medical Association* said:

"This should be a lesson to those physicians who glibly tell their patients the kind of medication being prescribed. It stands to reason that the average patient knows nothing about the therapeutic effect of drugs or the indications for their use, so what is to be gained by informing him of the nature of the medicament prescribed for him and give him cause for misinterpreting the reasons for its use? Furthermore, why contribute to self-prescribing, which not only has been very injurious to a great army of people but has led to the enormous and indiscriminate sale of proprietary remedies. The intelligent physician has no apologies to offer for his therapy, but there is no logical reason why the average patient should be given an opportunity of misinterpreting the indications or value of the treatment, or misuse it in connection with his own disabilities or the disabilities of relatives or friends."

"PAYING—EXTRAVAGANTLY—FOR A NAME"

Under the above title, the *Journal of the Medical Society of New Jersey* had occasion to comment on the question of prescribing proprietary preparations. By using such preparations the cost is much greater than a preparation under its proper chemical name. Attention was directed to the fact that in "times of depression," such as exist now and especially while the profession is being criticized—justly or unjustly—for whatever part its members play in "the high cost of sickness"—we should carefully avoid doing, or causing to be done, anything which will add to the burdens of the patient.

A comparison was made of the relative prices of twelve substances ordered in one ounce quantities, under the patented and chemical names, respectively:

Proprietary	Price: 1 oz.	Chemical	Price: 1 oz.
Phenacetin	$ .63	Acetphenetidin	$ .20
Aspirin Bayer	.85	Acetylsalicylic acid	.15
Veronal	3.00	Barbital	.70
Atophan	2.75	Cinchophen	.35
Duotal	1.07	Guaiacol carbonate	.27
Urotropin	.60	Methenamine	.13
Tolysin	2.25	Neocinchophen	.97
Luminal (in ½ oz. carton)	6.90	Phenobarbital	1.75
		Sulphonethylemethane	.50
Trional	1.90	Sulphonmethane	.40
Sulphonal	1.70	Theobromine sodium salicylate	.30
Diuretin	1.85	Thymol iodid	.68
Aristol	1.80		
Total	$25.30	Total	$6.40

"Under its patented name, each drug will cost approximately four times as much as when purchased under its proper laboratory name. The pharmacist is not to blame, because he is, professionally, in honor bound to supply the *exact thing* prescribed—and dare not substitute. It is a point which deserves some thought with regard to these, and a few other preparations which are extensively advertised."

EDITORIAL COMMENT

The injection of one c.c. of adrenalin with serum treatment will prevent protein shock.

B. B. Moeur, M.D. of Tempe, Arizona is the Democratic nominee for Governor of that state. Dr. Moeur in the primary defeated Governor Hunt who was trying for his eighth term.

According to Prof. Yandell Henderson of Yale University, the inhalation of carbon dioxide diluted in air or oxygen has been helpful in relieving the paroxysmal stage of whoping cough.

Legislatures of nine states have enacted laws prohibiting "hitch hiking." Such laws prohibit persons from soliciting rides along the roadside, and insure greater protection for both motorists and pedestrians.

All members of the Kansas Medical Society are eligible to Fellowship in the American Medical Association. However, to become a Fellow it is necessary to make application. The blanks will be furnished upon request to the A.M.A.

Announcement has been made Dr. Richard L. Sutton, Jr., of Kansas City, Missouri, has successfully passed the examinations of the British Conjoint Medical Board, and been made a Licentiate of the Royal College of Physicians and Surgeans of Edinburgh.

Every physician should not be alone interested in the treatment of a patient's disease, but also in factors which influence or delay recovery, including: his environment, his occupation, sanitation of the home or working quarters, his food, water or milk supply and even his relatives and immediate friends.

The cutaneous (Pirquet) and the intracutaneous (Mantoux) are the only methods of tuberculin testing widely used. The Mantoux test is as sensitive as the Pirquet test. When the higher dilutions are used, the Mantoux is much more sensitive. In the Pirquet test the amount of material cannot be measured, while with the Mantoux test a measured amount may be given. (Jour. A.M.A., July 23, 1932.)

A recent issue of the *Weekly Bulletin* of the New York City Health Department contains a short article on "The Effect of Economic Stress on Health." According to the writer an increase in the prevalence of malnutrition following the economic stress prevailing since 1929, is revealed through the physical examination of school children by physicians of the department of health. The proportion classed as suffering from malnutrition was approximately 13.5 per cent during 1927, 1928 and 1929; followed by an abrupt rise to 16.1 per cent in 1930; 17.1 per cent in 1931, and to the still

higher figure of 20.5 during the first quarter of 1932.

California and Western Medicine, August, 1932, reports an unusual outbreak of food poisoning. Fourteen of 21 farm laborers were taken suddenly ill about 30 minutes after eating dinner at the ranch house. Due to weakness of the legs they collapsed immediately. There was dryness of the throat, thickness of the tongue, dizziness, blindness, dilated pupils, rapid pulse, delirium, incoherent muttering, picking at the bed clothes and retention of urine. There was no temperature, nausea, vomiting or diarrhea. The first symptoms were indicative of botulism but an intensive investigation by Dr. J. J. Sippy revealed the fact that Jimson weed had accidentally been cooked together with spinach. The weed grew wild in the garden and in gathering the vegetable both had been included in the "greens" served at the dinner. The pronounced symptoms which occurred were due to the powerful alkaloids found in Jimson weed, chiefly atropin and stramonium.

"The growth-promoting capacity of heated milk plus the supplementary diet received by the average American child of 10 months to 6 years is not measurably less than the growth-promoting capacity of raw milk plus the supplementary diet received by the American child of 10 months to 6 years." The above conclusion was reached following a study by the United States Public Health Service of 3,700 children 10 months to 6 years of age.

A summary of the report follows:

(1) There is no significant difference between the average weight of children who have received no milk except heated milk, and the average weight of children who have received raw milk for more than the latter half of their lives, the respective weights being 33.6 and 33.2 pounds, the insignificant difference being in favor of the children receiving heated milk.

(2) There is no significant difference between the average height of children who have received no milk except heated milk, and the average height of children who have received raw milk for more than the latter half of their lives, the respective heights being 37.5 and 37.4 inches, the insignificant difference being in favor of the children receiving heated milk.

(3) There was no significant difference between the two groups of children from the standpoint of the relative percentage of life during which various supplementary foods were included in the diet, except in the case of cod-liver oil, which was included during an average of 41.6 per cent of the lives of the children receiving heated milk, and an average of only 27.6 per cent of the lives of the children receiving raw milk.

(4) This difference in the percentage of life during which cod-liver oil was fed did not, however, affect the relative positions of the two age-weight curves significantly, since the average weight of the 636 children in the heated-milk group who received no cod-liver oil at all was 33.5 pounds, as compared with 33.6 pounds for the 794 children in the heated-milk group who received cod-liver oil during more than half of their lives.

(5) The parents of the children receiving predominantly raw milk reported a higher incidence of diphtheria, scarlet fever, intestinal disturbances, and rickets than did the parents of children receiving heated milk only.

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THE PRESIDENT'S MESSAGE

To the Members of the Kansas Medical Society:

I am informed that on comparison of our scientific programs with those of adjoining states, the character of our own does not suffer in the least.

Our highly efficient secretary has been almost totally responsible for the splendid programs of the past. Each succeeding year at the meeting of the Council the question arises as to the manner of the program and as often the buck is passed to the secretary.

Frequently, criticisms of the program reaches the president's office. These criticisms consist largely, first, of objection to the discussion of papers. This without doubt has considerable merit. Yet, in the democracy of our proceedings such is in a manner impractiable. No doubt most of us have frequently received a much greater inspiration from a carefully worded discussion based on a well organized experience than from the original paper.

All papers cannot be of the highest character but may bring out points of worthy and elevating experience.

It occurs to the writer a free discussion and open suggestion would be worthy of consideration.

It has been suggested we possess as great a talent in the state as that in any other. As a result it has been recommended we do not import talent from without the state.

Your president has likewise been a little fearful of this experiment due to the human interest. The question of guest day has been discussed in this office. Recommendations have been made that guests be placed on the last day of the program. A little thoughtful discussion on these subjects may be of value and aid to the Council and secretary in this complicated endeavor.

P. S. Mitchell

Iola Kansas
October 25, 1932

President, Kansas Medical Society

THE LABORATORY

Edited by

J. L. LATTIMORE, M.D., Topeka

On the threshold of a season when pneumonia is more or less prevalent, it might not be amiss for the physician to give some thought to a program which would reduce the mortality rate. After a winter, we can review our pneumonias and place our finger upon certain cases that could either have been aborted or the severity decreased had an early diagnosis been made and therapy instituted.

Neufeld directed study toward the specific agglutinins. Since his time, numerous workers have investigated the field, resulting in Dochez and Gillespie's work of dividing pneumococci into four groups. Since their original classification, numerous sub-groups have been isolated, but for practical work we continue to use their original classification, groups I, II, III and IV.

Groups I and II are the most common; approximately 65 per cent of all pneumonias fall into one of these two groups. However, group III with a percentage of only 12.5, is the most virulent and shows the highest death rate. Next in line of virulence is group II, then group I and last is group IV. Statistics show that empyema complicates group I more than any of the other four classes. Young persons are prone to be affected with group I infection. Studies in group IV show no distinctive characteristics; they are of low virulence and they are often found in the normal mouth.

No attempt is made to cover the field of treatment as numerous manufacturing biological houses now offer on the market serums which they claim to be suitable for treatment in each class. Reliable, experimental and practical use of serums in groups I and II is now well established with group I offering the best response. The protective action in group III is not yet well enough established to go unquestioned. The use of proper serum depends upon two important things. First, identification of the group of the bacteria and second, the early administration of the proper serum. In groups I and II, where serum is admitted to be advantageous, the maximum results are obtained by the very early administration of the serum. Early administration means within 48 hours; better within 24 hours after the onset. The good results obtained decrease in proportion to the delay in administration of serum. This being true, the physician should be on the alert to diagnose the case as early as possible, almost to the degree of prepneumonia conditions.

Literature is crowded with reports of successful treatment of pneumonia with serum. There is nothing that is specially new. With facilities available for early diagnosis, there should be no excuse for physicians not adopting this form of therapy as a routine.

Of the laboratory procedures for identification of the different groups, Avery's mouse method is the standard. Each laboratory should in addition to this method also adopt some short method, whereby a quicker report can be given, then later to check up on this short method with the Avery mouse test. It requires 9 hours to complete the Avery test. The sputum is washed several times in salt solution; ground in a mortar; an emulsion made in salt solution and this injected intraperitoneally, into a white mouse. At the end of 8 hours the mouse is killed, peritoneal washings are centrifuged and the bacteria thus obtained are made into a suspension and added to equal parts of known sera of type I, II and III.

Numerous shorter dependable methods have been devised. The one that I have used with satisfaction is the Krumweide method. Coagulate 3 to 10 c.c. of sputum in a test tube in a boiling water bath, break up the clot, add 1 to 5 c.c. of salt solution depending upon the amount of serum separating from the clot. Mix well and replace in the water bath for 5 minutes, mixing and stirring to extract the antigen. Centrifuge at a high rate of speed for 15 minutes. The clear supernating fluid is then overlayed onto types I, II and III serums. A saline solution control should be set up at the same time.

RECENT MEDICAL LITERATURE

Edited by

WILLIAM C. MENNINGER, M.D., Topeka

TREATMENT OF HERPES ZOSTER

Phillips and Morginson report their experience on an empirical treatment of herpes zoster as well as simplex by giving a patient intravenous sodium iodide in dosage of 2 gms. on alternate days for from five to seven injections or until relief is obtained. In eleven cases they tried this it gave almost a phenomenal relief of the pain. They frankly admit there isn't any rationale for the treatment but obtained such spectacular results that they recommend it for further clinical trial.

(Sodium Iodide in the Treatment of Herpes Zoster by Phillips, H. E. and Morginson, Wm, J.: West Virginia Medical Journal, Vol. 28:405-406, September, 1932.)

TREATMENT OF POLIOMYELITIS

Cleveland writes an interesting discussion of the treatment in the recent epidemic in New York City and compares this epidemic with the very famous one of 1916. In the first six months of this last year in New York City there were only thirty-one cases. The number rose rapidly until the weekly figures for August showed 591 cases at the peak. It is interesting to note too that with the new serum treatment there was a mortality of only 10 per cent in 1931 as compared to 25 per cent in 1916. The incidence of paralysis in the recent outbreak has been placed at 17 per cent. It is believed that part of the lowered mortality and paralytic rate may be due to the fact that a larger number of these patients were recognized in the pre-paralytic stage. Ninety-three per cent of the recent patients were under 15 years of age and 87 per cent under 10 years. This supports the feeling that our adult population has acquired a large measure of immunity to this disease. He discusses at length the symptoms, the spinal fluid and the treatment and the acute convalescent and chronic stages.

(Thoughts of the Treatment of Poliomyelitis, Cleveland, Master. Journal of Medical Society of New Jersey, Vol. 29:643-648, August, 1932.)

THE EFFECT OF LIVER THERAPY ON THE NEUROLOGIC MANIFESTATIONS OF PERNICIOUS ANEMIA

The authors present the results of treatment by liver or liver extract in 44 cases of pernicious anemia, 39 of which showed signs and symptoms of definite involvement of the nervous system. The course of the disease under treatment is illustrated by an abbreviated report of 5 cases; 2 charts are shown giving the changes in the blood count, and in the symptoms and signs referable to disease of the nervous system during prolonged treatment by liver in a case of pernicious anemia with combined degeneration; also five tables are presented showing the results obtained from the liver or liver extract and the following conclusions are drawn. First that a large amount of liver must be consumed over a long period of time before great improvement becomes manifest. Excluding gain in strength, improvement was noted in 31.25 per cent of the signs and symptoms of nervous system involvement in cases treated for less than 6 months; in 55.17 per cent of the signs and symptoms in cases treated for more than 6 months and in 58.93 per cent of the signs and symptoms in 8 patients with advanced subacute combined degeneration who were treated for more than 10 months. The symptoms and signs that improved the most noticeably were those referable to disturbances of cutaneous and muscular sensibility, and to flaccid paresis. It is suggested some of these symptoms and signs may be dependent upon changes in the peripheral nerves.

(The Effect of Liver Therapy on the Neurologic Manifestations of Pernicious Anemia: Baker, B.M., Bordley III, James, and Longscope, Warfield T., The American Journal of the Medical Sciences, 184:1-24, July, 1932).

HYPERTENSION

Following a study of 202 cases of hypertension the authors conclude hypertension is twice as frequently found in women; that the mortality rate after ten years is twice greater in men. They found that hypertension results from a constitutional hypertonicity of the autonomic neurovascular control in the large

majority of instances and is a compensatory angiospasm in the others. Therapy of uncomplicated hypertension is a matter of mental and physical hygiene rather than of drugs. Treatment of late results of hypertension requires skillful use of medical and physical measures, added to psychotherapeutic measures. They feel that the physician who is a good and cheerful psychologist will be the most successful in relieving the symptoms of hypertensive cardiovascular disease.

(Hypertension: A Study of Two Hundred Two Cases Followed for an Average of Ten Years—With Remarks on Cause and Treatment: Blackford, J.M. & Wilkinson, J.N.: Annals of Internal Medicine, 6:54-59, July, 1932).

ACUTE EPIDEMIC ENCEPHALITIS

This paper was read by the author at the Michigan State Medical Society in 1931 and is a report particularly of their findings in 26 cases of acute encephalitis of the epidemic type. The series is too small to draw any conclusions and they only attempt to relate the outstanding symptoms as they found them in these cases. As to the treatment, they say without hesitation there is at present no particular drug or medication in any form which can be considered to be specific. They required patients to rest in bed for long periods of time, gave them iodides and salicylates intravenously, orally and per rectum. Occasionally they used lumbar drainage and typhoid vaccine, the latter in sufficient dosage to produce a general reaction in the individual and in chronic cases they used hyoscin and stramonium.

(Acute Epidemic Encephalitis, Currier, F. P. and Davis, D. B. Journal of the Michigan State Medical Society. Vol. 31:437-443, July, 1932.)

SPINAL ANESTHESIA IN EMERGENCY SURGERY

This writer reports the study of spinal anesthesia and the reaction of the cases to the anesthetic in 222 emergency operations. These included all types of general surgery from which he concludes that spinal anesthesia is highly satisfactory in emergency surgery and should be considered more frequently. He believes that visceral perforation or intraabdominal inflammations are not contraindications to spinal anesthesia and one confined to the level of the symphysis pubis does not apparently influence the vasomotor system surgically speaking. Severe shock, severe toxicity and severe uncontrollable hemorrhage are contraindications to spinal anesthesia even if adequate treatment has brought the patient's condition within range of normal before operation. He believes that the deaths during anesthesia as considered here are attributable to vasomotor collapse.

(Spinal Anesthesia in Emergency Surgery, Krieg, E. G. Journal of Michigan State Medical Society, Vol. 31:456-462, July, 1932.)

TREATMENT OF HEAD INJURIES

Doctor Freeman who is professor of neurology at George Washington University outlines a very conservative plan for the treatment of head injuries discussing first the immediate treatment and then the later treatment. In the early stages the treatment of shock is all important and secondly the impaired circulation of the brain then requires attention. A 50 per cent glucose solution excels for both purposes since it draws fluid from the tissues and especially from the injured brain at the same time that it restores the blood volume. He calls attention to a slow pulse as an indication for dehydration and a rapid one for transfusion. He cautions against the use of morphine in that it may be fatal thru respiratory depression. Operation is justifiable only when definite indications of clot formation with cerebral compression are present. Prolonged rest with fluid restriction is the surest guarantee against persistent post-traumatic constitution.

(The Conservative Treatment of Head Injuries, Freeman, Walter. The West Virginia Medical Journal, Vol. 28:348-351, August, 1932.)

INSULIN AS A TONIC

There have been several very excellent papers in the last three years suggesting the use of insulin as a tonic. It has been recommended in maltnutrition, in undernourished psychotic patients, in undernourished tuberculosis patients, and in general in all forms of chronic illnesses. Insulin is given in doses of 5 units three times a day up to 10 or even 15 units

three times a day without regard to its use in diabetes. A well balanced diet is sufficient and hypoglycemia rarely develops. Its value is particularly praiseworthy in the chronic diseases where patients frequently have little appetite or may be a little nauseated or upset by food.

(Insulin as an Appetizer, Jones, O. S. Journal of the Missouri State Medical Association, Vol. 29:416-417, September, 1932.)

VISCERAL SYPHILIS

Doctor O'Leary discusses under visceral syphilis particularly syphilis of the stomach and syphilis of the liver. He discusses the long standing arguments of the diagnosis of syphilis of the stomach in which he points out that even tho we can't positively diagnose it from a pathological standpoint that a positive therapeutic test is highly suggestive. In a group of 81 patients diagnosed with such a test over a period of two to nine years 37 per cent were clinically cured, 27 per cent were decidedly improved and 29 per cent were unchanged in condition. He treats these patients with a series of six or eight injections of arsphenamine in addition to mercury or bismuth and iodides. In syphilis of the liver the author cautions about the necessity of making frequent observations as to the effect of arspenamine injections since in cases of extensive diffuse hepatitis an early cirrhosis may develop as the result of its use. On the other hand, treatment with mercury and iodides should be inaugurated and the dosage increased according to the tolerance and the therapeutic response. In the gummatous hepatitis, functional tests of the liver are of no value but in the acute and chronic hepatitis frequent repetition of the tests over a long period offers an index of the degree of dysfunction.

(Visceral Syphilis, O'Leary, Paul A. Journal of the Michigan State Medical Society, Vol. 31:567-570, September, 1932.)

THE TONSIL PROBLEM

In this paper the author makes the point that a tonsil operation is not a minor operation. He apparently feels that it is in general too lightly regarded both in its seriousness and in its preparation. He makes the point particularly that the physician recommending a tonsil operation should regard it as only one step in the curative process as it is both unscientific and unfair to the patient to assume that removing his tonsils is necessarily going to be the trick that clears up all his difficulties. He stresses also the point that the patient should remain in bed three days post-operatively and certainly not be allowed to run loose and get into dusty places until there is complete recovery which he estimates as two weeks. The author feels that with the tonsils out it often permits a sufficient shift of the burden that the patient may be carrying to allow medical treatment to be effective which previous to the operation had been unsuccessful.

(The Tonsil Problem, Brown, Chester. Journal of the Medical Society of New Jersey, Vol. 29:291-294, April, 1932.)

ESSENTIAL (PRIMARY) HYPERTENSION

Three hundred and seventy-five cases of essential hypertension are analyzed. On each of these postmortem examination was made. For convenience of study the cases are divided into three stages: functional, arteriosclerotic, and arteriolonecrotic. The clinical signs and symptoms and the causes of death in each stage are considered. Retinal changes were observed typical of the various stages. Detailed postmortem pathological data, gross and microscopic, are presented covering weight of hearts, size and structure of kidneys, arteriosclerosis, and necrosis of blood vessels of involved organs. Unifying features of all stages are hypertension, cardiac hypertrophy, and arteriosclerosis. The chief complications are apoplexy, heart failure, and renal failure. Arteriosclerosis of the renal vessels is a constant and characteristic feature of essential hypertension at autopsy. Histologically the principal lesion is an arteriosclerosis. The wide variety of symptoms and signs appears to depend upon the extensiveness, the rate of progress, the severity, and the location of the arteriosclerosis. The clinical and histological observation on the so-called malignant hypertension differ from those benign only in degree. All of the symptoms and histological lesions observed the authors believe, may be produced by arteriosclerosis alone.

(Essential (Primary) Hypertension: A Clinical and Morphological Study of 375 Cases: Murphy, Francis D.; Grill, John; Pessin. Benjamin; and Moxon, Gail F., Annals of Internal Medicine, 6:31-54, July, 1932).

COUNCIL MEETING
October 4th, 1932

The Council of the Kansas Medical Society met October 4 on the ninth floor of the Huron Building, Kansas City, Kansas, to hear a report of the Governor's Committee on the crippled children problem and a report of a committee appointed by the president on full-time secretary or business manager.

Meeting was called to order at 2:15 p. m. by the president, Dr. P. S. Mitchell. The following were present: Doctors R. T. Nichols, E. C. Duncan, O. P. Davis, C. C. Stillman, Alfred O'Donnell, I. B. Parker, C. H. Ewing, P. S. Mitchell, Geo. M. Gray, J. F. Gsell, C. C. Nesselrode, Walter Stephenson, A. R. Chambers, Milton B. Miller, H. L. Snyder and J. F. Hassig.

Dr. Snyder and Dr. Nesselrode gave an oral report of the meeting of their committee with Governor Woodring and the Crippled Children Commission. They both stated that they found the Governor and the Commission very agreeable. A great deal of discussion and suggestions followed as to the proper way the law should be amended.

A motion was made by Dr. Davis that the committee appointed by the President confer with the committee appointed by the Governor and that they get together and work out the necessary amendments to the law and if possible secure the approval of the Crippled Children Commission before submitting it to the legislature. The motion was regularly seconded by Dr. Gray and unanimously carried.

After some discussion as to whether or not physicians should be paid for services rendered children coming under the Crippled Children Commission, a motion was made by Dr. Gray that no fee should be received for such work. It was seconded by Dr. Stillman and by a rising vote was unanimously carried.

Dr. Gsell as chairman of the committee on full-time secretary or business manager was called upon to render his report. He stated that his committee was unable to give a report at this time and if it pleased the Council he would like to have the committee continued until the mid-winter meeting of the Council in January.

Dr. Gray made a motion that the committee be continued and a report submitted at the January Council meeting. The motion was regularly seconded by Dr. Ewing and unanimously carried.

Meeting adjourned.

J. F. Hassig, M.D., Secretary.

THE INSTITUTE OF MEDICINE OF CHICAGO

A series of five illustrated lectures is announced by the Institute of Medicine of Chicago and the Cancer Research Committee of the Chicago Woman's Club, to be delivered by Max Cutler, M.D., Director Tumor Clinic, Michael Reese Hospital, in the Chicago Woman's Club Hall, 72 East Eleventh Street, Chicago. These lectures will cover the field of causation, prevention, early diagnosis, and treatment of cancer. The material presented will include in chronological order the historical landmarks in the progress of the knowledge of cancer, a description of recently discovered contributing causes, and a review of the modern methods of treatment as practiced in the great cancer clinics of America and Europe. Special attention will be directed to the newer developments in the technic of roentgen ray and radium, and the results of the modern treatment will be shown and illustrated.

The subject of the first lecture, held November 4, was: Causes of Cancer and its Prevention; the second, November 11: Early Diagnosis of Cancer; the third, November 25: Surgical Treatment of Cancer; the fourth, November 28: Radiation Treatment of Cancer; the fifth, December 2: Results of the Modern Treatment of Cancer.

The lectures begin promptly at 8:15 o'clock in the evening and last one hour.

COUNTY SOCIETY NEWS

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met at the lecture room in the Nurses' Home, September 14, 1932, at 8:00 p. m. The meeting was called to order by Vice President, Dr. Ed Morgan. Dr. William C. Menninger of Topeka was presented to the society and gave a very instructive and interesting lecture on "Classification of Psycho-Neurosis." The lecture was discussed by the following: R. J. Morton, E. N. Martin, Warren Morton, Bill Algie and Ed Morgan.

A letter was read to the society from Dr. William Algie requesting a transfer of his membership from the Harvey County Medical Society to the Clay County Medical Society. A motion was made by Dr. C. C. Stillman, seconded by Dr. F. R. Croson that Dr. Algie's credentials be accepted and his dues for this year are paid. Motion carried.

Dr. E. N. Martin discussed the Kansas state law about the care of indigent children and also suggested certain revisements. His suggestions were discussed by the following doctors: Bale, Bitzer and Stillman.

Dr. Martin announced that there are several cases of diphtheria in our community and suggests that we urge the coming generation to take the toxin antitoxin.

Sixteen members and five visitors were present. The visitors were as follows: Doctors Werner Mall and Kenneth Conklin of Abilene, Dr. Ralph Loudon of Solomon, and Dr. L. S. Steadman from Junction City.

The Clay County Medical Society met in monthly session at the Bartell House in Junction City on the evening of October 12, 1932. Drs. Carr and Smiley entertained the society to a delightful seven o'clock dinner.

The meeting was called to order at 8:00 p. m. by President Carr who presented Dr. Peter T. Bohan of Kansas City, Missouri.

Dr. Bohan gave a paper on "Chronic Abdominal Pain," in which he described the theories of pain in visceral diseases and the differential diagnosis of conditions presenting chronic pain in the abdomen. Dr. Bohan's sojourns into the theories of McKenzie & Head, and Morley were presented from a theoretical and practical standpoint. The diagnostic methods of Dr. John Berton Carnett of Philadelphia were frequently referred to and their value extolled. Two case histories were cited where abdominal operations had been performed for the relief of pain caused by intercostal neuralgia. Allusions were made to Dr. Hertzler's well known views on chronic appendicitis.

The paper was discussed by Drs. Ball, Colt, Vermillion and Stillman. This discussion was answered by Dr. Bohan.

Dr. Bohan's forceful delivery and inimitable style plus the very practical manner in which he presented the extremely interesting subject, made the evening one of exceptional pleasure to say nothing of the very fine dinner given by Drs. Carr and Smiley.

Dr. W. R. Dillingham, president of the Golden Belt Society, invited everyone to the next meeting of the society which will be October 13, 1932, at Salina.

The minutes of the two preceding meetings were read and Dr. Martin informed the secretary that the late Dr. Reynold's initials were S. E. instead of S. A. as read, otherwise the minutes were approved.

Dr. Stillman notified the society that Governor Woodring had appointed a committee to revise and redraft the present Crippled Children's Law and present the same to the legislature.

Dr. Croson moved the society extend a vote of thanks to Drs. Carr and Smiley for their extreme hospitality, seconded by Dr. Lewis. Motion carried.

Dr. Barrett Nelson of Manhattan, on behalf of the Riley County Society thanked the Clay County Society for their hospitality and very interesting program.

There were fourteen members and thirty-four visitors present.

J. Leonard Dixon, M.D., Secretary.

FORD COUNTY MEDICAL SOCIETY

The Ford County Medical Society held their regular monthly meeting in the Jade Room of the Lora-Locke Hotel, Dodge City, at 6:30 p. m. Dinner was served to the visitors and members at this hour, and immediately following was a very interesting and instructive talk by Dr. Lawrence P. Engel, assistant professor of surgery, University of Kansas School of Medicine. His subject was "The Surgical Treatment of Goiter." Slides were used to illustrate some points in the operation.

Visitors were, Doctors E. Trekell and G. W. Hammel, Liberal; Justin A. Blount and C. E. Sheppard, Larned; R. M. Troup and G. Kenneth Lewis, Garden City; E. E. Morrison, C. W. Zugg, M. F. Russell and Don Kendall, Great Bend; Vermillion and W. F. Bernsdorf, Pratt; L. R. McGill, Hoisington; R. B. Mays, Elkhart; B. L. Ellis, Rolla, and Rev. E. W. Freeman and Rev. W. B. Stevens.

Members: Drs. J. G. Janney, R. G. Klein, Jos. W. Spearing, C. E. Bandy, C. H. Briggs, E. H. Dellinger, Foster L. Dennis, V. B. Dowler, G. W. Hollembeak, C. L. Hooper, A. C. Johnson, C. E. McCarty, N. E. Melencamp, W. F. Pine, R. D. Russell, C. D. Updegraff, C. L. Williams, and W. Errol Wilson.

Motion made and carried, "That the Ford County Medical Society hold no meeting in November, but visit the Barton County Society."

W. F. Pine, M.D., Secretary-Treasurer.

FRANKLIN COUNTY MEDICAL SOCIETY

Regular meeting at Ransom Memorial Hospital, September 28. In the absence of the president, Dr. John B. Davis, and vice president, Dr. John A. Dyer, a president pro tem was elected and the session proceeded in regular form.

Owing to the absence of the secretary, Dr. J. F. Barr, there was no record of previous meeting, nor any kept of the September meeting, this report being given to the secretary by the president pro tem.

The program consisted of a paper by Dr. E. D. Wells "The Thalein Dye in the Differential Diagnosis of Diseases of the Tonsil That Yield to Tonsillectomy."

The subject was given in a masterly manner and revealed great familiarity of the author with all the elements entering into the pro and con of tonsillectomy.

The speaker told us that many apparently diseased tonsils, as evidenced by pus bearing crypts were harmless so far as absorption of toxic material, and only when the capsule was broken was absorption possible. This he told us could be determined by instillation of the dye down into the base of the crypt and waiting a reasonable time for the dye to show up in the urine. Showing up in this excretion, he said, proved the capsule was abraded; absorption was proceeding and suggested in itself, tonsillectomy for relief of such constitutional symptoms as brought the patient to the physician.

Conversely, absence of the dye in the urine was an indication that some other factor was responsible for the symptomatology, and tonsillectomy should not be done solely with the altruistic end in view to cure the patient and restore the sufferer to health by the tonsillectomy.

Confessing, for his soul's benefit, perhaps, since he is an otolaryngyologist, and doing a number of tonsillectomies—that too little effort was being made to pre-determine the cases that would be benefitted by the procedure.

Illustrating by comparison, he said that if the general surgeon made as little effort to predetermine the outcome of his recommendations as did the clinician who so quickly prognosed disaster for his patient on the appearance of the throat, he would be barred from hospital privileges.

Very active discussion was entered into by Drs. Carmichael, Trump, Naylor, Dawson, Robb and others. It seemed that the essayist had stirred up something.

At any rate he told us how to determine if the tonsil was absorbing, by the use of instillation of the dye into the crypts and observing its appearance or failure, in the urine.

The next meeting of the society will be its annual election of officers and banquet Wednesday, October 26.

J. F. Barr, M.D., Secretary.

RILEY COUNTY MEDICAL SOCIETY

The Riley County Medical Society met in regular session at the Gillett Hotel, Monday, October 10. After dinner the following business and program was completed.

A bill of $17.31 was allowed Dr. H. T. Groody to cover expenses of the banquet of September 12.

Dr. C. M. Siever read a paper on "Diseases and Injuries of Muscles, Tendons and Bursae."

The following were present: Drs. Nelson, Schoonhoven, Cave, Groody, Ball, Eberhart and Siever.

Meeting adjourned.

CHAS. M. SIEVER, M.D., Secretary.

SHAWNEE COUNTY MEDICAL SOCIETY

The Shawnee County Medical Society met in regular session on Monday evening, October 3, 1932. Dinner preceded the program.

Dr. Edward L. Cornell, Assistant Professor in Obstetrics, Northwestern University, Chicago, was the guest speaker and discussed: "Eclampsia." Dr. Cornell stressed the importance of a monthly examination of the pregnant woman as the one important means of prevention.

Approximately 75 members and guests were present.

Dr. Richard L. Sutton, of Kansas City, will be the guest speaker at the annual meeting to be held December 5, and will discuss his recent trip to the Arctic, in addition to comments on medical and economic conditions in Russia. The program will follow a dinner which will be held at the Hotel Jayhawk. Members of other societies are invited to attend. The ladies are also invited to attend this meeting.

EARLE G. BROWN, M.D., Secretary.

SUMNER COUNTY MEDICAL SOCIETY

The Sumner County Medical Society met in regular session at the Roadside Barbecue in Wellington, Kansas, October 20, 1932. Dinner was served at 6:30 p.m., after which the meeting was called to order by Vice President Dr. McGrew.

After introduction of visitors, the Society enjoyed an excellent paper by Dr. J. L. Lattimore of Topeka, on Pathology of Tumors in General Practice. Dr. Lattimore's paper was discussed very thoroughly by members and some of the visitors.

Following Dr. Lattimore's paper Dr. Earle G. Brown of Topeka read an excellent paper on Progress in Health Conservation.

These were both excellent papers, being extremely interesting and instructive and the Society was very fortunate in securing Drs. Lattimore and Brown for this program.

R. M. PRICE, M.D., Secretary.

DEATH NOTICES

William C. Hayhurst, Ottawa, aged 64, died September 11, 1932, of coronary sclerosis. He graduated from Barnes Medical College, St. Louis, in 1895. He was a member of the Society.

William J. Stilson, Lawrence, aged 62, died September 13, 1932, of chronic interstitial nephritis at Topeka State Hospital. He graduated from Kansas Medical College, Topeka, in 1904. He was not a member of the Society.

KANSAS MEDICAL AUXILIARY

MRS. J. THERON HUNTER, Topeka
Chairman of Publicity

Mrs. Walter Jackson Freeman, president of the Woman's Auxiliary to the American Medical Association, after three weeks of illness, died in Philadelphia, October 27, 1932. Funeral services were held in Holy Trinity Church in that city Saturday, October 29.

The daughter of a physician, the wife of a physician, the mother of two physicians, the life and interests of Mrs. Freeman were peculiarly closely allied to the medical profession. Her father was the late Dr. William Williams Keen of Philadelphia.

The Woman's Auxiliary to the American Medical Association has lost an inspiring and able leader, the medical profession an understanding and devoted friend.

If the physicians of Oregon, Washington and Idaho do not take home to their wives Northwest Medicine, it is just too bad for everybody. For the wives of those physicians should surely have the opportunity of reading the fine "Outline of the History of Medicine in the Pacific Northwest," by Dr. O. Larsell of Portland, Oregon.

As we well know very much that is admirable, interesting and exceedingly worthwhile goes on through or in relation to the Auxiliary to the Georgia Medical Association. An incident of the last state meeting at which Mrs. S. T. R. Revell of Louisville, Georgia, was inaugurated president must have thrilled every native son and daughter present or who read the published account of it.

The president of the Kansas Medical Auxiliary, Mrs. E. C. Duncan, called a state meeting with luncheon in Hiawatha September 26, for the purpose of giving the Auxiliary women an opportunity to meet Mrs. Walter Jackson Freeman, the national president. Mrs. Freeman addressed the meeting on the subject "The Needs of Auxiliary Progress," an address her audience considered most timely and pertinent.

The national chairman of Organization, the national first vice president, Mrs. James F. Percy of Los Angeles, is making very practical and helpful suggestions for extending Auxiliary organization.

Here is a paragraph: "The first of the suggestions—is that the House of Delegates or Council of each State Medical Society where there is a state Auxiliary, request and urge the officers of each County Medical Society where there is no County Auxiliary to take the steps necessary to see that one is organized. If this organization is worthwhile to some of the counties, it should have an honored place in the vital development of every County Medical Society." Thus Mrs. Percy proceeds with useful organization suggestions and reasons therefore.

TRUTH ABOUT MEDICINES

In addition to the articles enumerated previously the following have been accepted:

Abbott Laboratories—Abbott's A-B-D Malt Extract with Cod Liver Oil and Viosterol 5D.

Jensen-Salisbery Laboratories, Inc.—Undulant Fever Bacterial Vaccine.

Eli Lilly & Co.—Gas-Gangrene Antitoxin (Combined). Tetanus-Gas-Gangrene Antitoxin (Combined). Plague Vaccine, Prophylactic, three 1 c.c. vials package.

National Drug Co.—Tuberculin Intracutaneous for Mantoux Test.

G. D. Searle & Co.—Tablets Chiniofon-Searle Enteric Coated, 0.25 Gm. (4 grains).

E. R. Squibb & Sons—Typhoid Vaccine (Immunizing), one 5 c.c. vial package. Typhoid Vaccine (Immunizing), one 20 c.c. vial package.

Ulmer Laboratories—Biliposol: Ampoules Biliposol Solution, 2 c.c.

The following articles have been included with the List of Articles and Brands Accepted by the Council But Not Described in N.N.R. (New and Nonofficial Remedies, 1932, p. 487):

Hollister-Stier Laboratories—Protein Extracts Diagnostic-Hollister-Stier.

McCormick & Co., Inc.—McCormick's English Mustard.

United States Standard Products Company—Vaccine Virus (U.S.S.P.)

The Wilber Co., Inc.—Tablets Digitalis-Wilber. Tincture Digitalis-Wilber.

John Wyeth & Brother, Inc.—Wyeth's Capsules Digitalis Leaf Defatted.

New and Nonofficial Remedies

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Scarlet Fever Streptococcus Toxin for Immunization—(National). A scarlet fever streptococcus toxin (New and Nonofficial Remedies, 1932, p. 381) prepared by the method of Drs. Dick by license of the Scarlet Fever Committee, Inc. It is marketed in packages of five vials, fifty vials and single vial packages. National Drug Co., Philadelphia.

Scarlet Fever Streptococcus Toxin for the Dick Test—(National). It is prepared by the method of Drs. Dick by license of the Scarlet Fever Committee, Inc. (New and Nonofficial Remedies, 1932, p. 397). The product is marketed in packages of one vial containing sufficient toxin for ten tests and in packages of one vial containing sufficient toxin for one hundred tests. National Drug Co., Philadelphia. (Jour. A.M.A., September 3, 1932, p. 833).

Haliver Oil with Viosterol 250 D-Abbott.—Halibut liver oil, adjusted by addition of maize oil to have a vitamin A potency of not less than 30,000 pharmacopeial units per gram, and by addition of a sufficient amount of viosterol in oil 250 D to assure a vitamin D potency of not less than 250 D. The actions and uses are the same as those of cod liver oil. The product is marketed in the form of soluble gelatin capsules haliver oil with viosterol 250 D-Abbott, 3 minims. Abbott Laboratories, North Chicago.

Parke-Davis Haliver Oil with Viosterol-250 D.—Halibut liver oil, adjusted by addition of maize oil to have a vitamin A potency of not less than 30,000 pharmacopeial units per gram and by addition of a sufficient amount of viosterol in oil 250 D to assure a vitamin D potency of not less than 250 D. The

actions and uses are the same as those of cod liver oil. The product is supplied in the form of soluble gelatin capsules Parke-Davis haliver oil with viosterol-250 D, 3 minims. Parke, Davis & Co., Detroit.

Normal Serum (From the Horse).—This product (New and Nonofficial Remedies, 1932, p. 357) is also marketed in bottles containing 100 c.c. The Cutter Laboratory, Berkeley, Calif.

Normal Horse Serum.—This product (New and Nonofficial Remedies, 1932, p. 357) is also marketed in 30 c.c. vial packages. Lederle Laboratories, Inc., Pearl River, N. Y. (Jour. A.M.A., September 17, 1932, p. 996).

Solution Dial-Ciba with Urethane, Sterile Ampules, 1.1 c.c.—Each cubic centimeter contains Dial-Ciba (New and Nonofficial Remedies, 1932, p. 83) 0.1 Gm. (1½ grains), ethyl carbamate (urethane) 0.4 Gm. (6 grains), monoethylurea 0.4 Gm. (6 grains) and water q.s. The actions and uses are the same as those for Dial-Ciba. It is proposed for intramuscular administration and, only when pressing emergency exists, for intravenous injection. Ciba Co., Inc., New York.

Solution Dial-Ciba with Urethane, Sterile Ampules, 2.3 c.c.—Each cubic centimeter contains Dial-Ciba (New and Nonofficial Remedies, 1932, p. 83) 0.1 Gm. (1½ grains), ethyl carbamate (urethane) 0.4 Gm. (6 grains), monoethylurea 0.4 Gm. (6 grains) and water q.s. The actions and uses are the same as those for Dial-Ciba. It is proposed for intramuscular administration and, only when pressing emergency exists, for intravenous injection. Ciba Co., Inc., New York.

Tablets Chiniofon-Searle Enteric Coated, 0.25 Gm. (4 grains). Each tablet contains Chiniofon-Searle (New and Nonofficial Remedies, 1932, p. 125), 0.25 Gm. (4 grains), coated with phenyl salicylate. G. D. Searle & Co., Chicago.

Typhoid Vaccine (Immunizing).—This product (New and Nonofficial Remedies, 1932, p. 392) is also marketed in packages of one 5 c.c. vial and in packages of one 20 c.c. vial, containing 1,000 million killed typhoid bacilli per cubic centimeter. E. R. Squibb & Sons, New York.

Tetanus-Perfringens Antitoxin.—An antitoxic serum (New and Nonofficial Remedies, 1932, p. 359) prepared by immunizing horses individually against the toxins of B. tetani and B. perfringens (B. welchii). This product is marketed in packages of one vial containing 1,500 units of tetanus antitoxin and 1,000 units of perfringens antitoxin; and in packages of one syringe containing 1,500 units of tetanus antitoxin and 1,000 units of perfringens antitoxin. The National Drug Co., Philadelphia. (Jour. A.M.A., September 24, 1932, p. 1085).

Foods

The following products have been accepted by the Committee on Foods of the American Medical Association for inclusion in Accepted Foods:

Foodtown Wheat Pops (Foodtown Kitchens, Inc., Chicago)—Popped and toasted whole wheat flakes made from cooked whole wheat, flavored with malt extract, sugar and salt. The product is claimed to supply cellulose bulk to the diet.

Baby's Choice Evaporated Milk (Oatman Condensed Milk Company, Dundee, Ill., manufacturer; Cardinal Milk Sales Company, Dundee, Ill., distributor).—Canned, unsweetened evaporated milk, suitable for general cooking, baking and table uses, and in infant feeding. The mixture of equal parts of the evaporated milk and water is claimed to be not below the legal standard for whole milk. (Jour. A.M.A., September 3, 1932, p. 833).

Carnation Malted Milk (Carnation Company, Milwaukee).—A dried malted milk in tins, prepared from whole milk, barley malt and malted wheat

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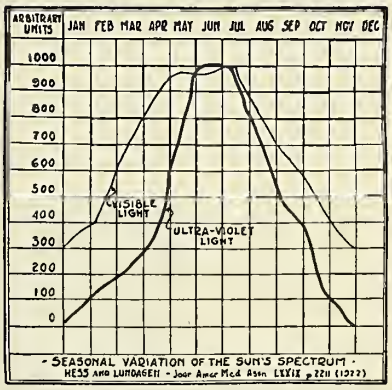

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flour. It is claimed to be a malted milk suitable for the preparation of table beverages.

Manowis Brand Corn Syrup with Cane Flavor (Plumb & Nelson Company, Manitowoc, Wis., distributor), Puckett's Golden Corn Syrup with Cane Flavor (Puckett's Cash Stores, Sayre, Okla., distributor), Butter Cup Brand Corn Syrup with Cane Flavor (Tindall, Kolbe & McDowell, Milwaukee, distributor), Gold Bond Brand Corn Syrup with Cane Flavor (Milburn-Johnston Grocery Company, Kensett, Ark., distributor), Gold Bond Brand Corn Syrup with Cane Flavor (Harrison Grocery Company, Harrison, Ark., distributor), Canew Brand Golden Syrup with Cane Flavor (New York Store Mercantile Company, Cairo, Ill., distributor), Ozark Beauty Brand Golden Corn Syrup with Cane Flavor (Pocahontas Grocery Company, Pocahontas, Ark., distributor), Blue Ribbon Brand Golden Corn Syrup with Cane Flavor (Woodward Wholesale Grocery Company, Woodward, Okla., distributor), Byerly Trophy Brand Corn Syrup with Cane Flavor (J. A. Byerly Company, Inc., Owosso, Mich., distributor), (D. B. Scully Syrup Company, Chicago, packer).—These are table syrups with a corn syrup base (85 per cent) flavored with refiners' syrup (15 per cent). They are claimed to be for cooking, baking and table use, and suitable as carbohydrate supplements for milk modification for infant feeding. (Jour. A.M.A., September 10, 1932, p. 917).

Heinz Tomato Juice (H. J. Heinz Company, Pittsburgh).—Pasteurized tomato juice with added salt; retains in high degree the vitamin content of the raw juice; packed in tins and bottles. The vitamin A content is claimed to be more than 10 per cent that of butter; ten grams per day is claimed to provide adequate vitamin B for normal growth of rats; 3 c.c. of juice is claimed to afford protection against scurvy in guinea-pigs, which is only slightly more than the quantity of orange juice required. It is also claimed to contain vitamin G in small amounts. It is for table use and as a vitamin C supplementary food for infant feeding.

Dickinson's Little Buster Hulless Pop Corn (The Albert Dickinson Company, Chicago and Minneapolis).—Canned popcorn kernels with a proper moisture content for popping. It is canned dwarf variety popcorn.

Pure California Ehmann Olive Oil Pure Ehmann Olive Oil (Ehmann Olive Company, Oroville, Calif.)—A cold-pressed, unblended, olive oil claimed to be suitable for table and medicinal use.

Weidman Boy Brand Tomato Juice (The Loudon Packing Company, Terre Haute, Ind.)—Canned tomato juice which retains in large measure the vitamin content of the raw juice used. It contains a small amount of added salt. It is claimed to be a good source of vitamins A and B and an excellent source of vitamin C. (Jour. A.M.A., September 17, 1932, p. 996).

Accepted Devices for Physical Therapy

The following have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Lang Hospital Insulated Prolonged Flowing Bath with Hammock.—The Lang Hospital Insulated Prolonged Flowing Bath with Hammock is designed for general hydrotherapy treatments. The sides and the bottom of the bath are made of two thicknesses of 1 inch veneer and two thicknesses of compressed cork with an air space between the cork thicknesses. The inner lining, capping and corners are of stainless steel. The four outer sides are faced with white "Bakelite." The bath is supported by four marble blocks. This insulated construction is provided for the purpose of maintaining the temperature of the water. The firm claims that the temperature of the water mixture remains so constant that it will not vary to within 0.5 degree F., plus or minus, regardless of temperature or pressure changes in the hot or cold water supply lines. The hammock is constructed of 1¼ inch angle iron with adjustable shoulder and head rests, brazed on all joints. An adjustable tray in connection with this bath is connected to the side of the bath and may be set at any desired height or position, allowing the patient to eat or read while under treatment. William J. Lang, Chicago. (Jour. A.M.A., September 10, 1932, p. 916).

Carrier Portable Room Cooler.—The purpose of the Carrier Portable Room Cooler is to reduce the temperature of a hospital, a home or an office room to comfortable summer temperatures. It consists essentially of a cabinet resembling an ice chest and is equipped with two small motor driven air blowers designed to draw the room air by and in the presence of melting ice. No difficult installation is required; the cooler is charged with ice, connected to a source of electric current. Ready for use. It is claimed that 300 pounds of ice will operate the cooler at full capacity under hot weather conditions for about five hours. It is also claimed that the Carrier Portable Room Cooler will serve as a therapeutic aid in a "hospital operating room or dispensary" and that it will "provide comfort in a small individual patient's room either in a hospital or private home." Carrier-York Corporation, Philadelphia. (Jour. A.M.A,. September 17, 1932, p. 994).

Emerson Diaphragm Respirator.—The Emerson respirator is an apparatus for producing artificial respiration. The machine is driven by an alternating or a direct current motor; it may also be operated by hand. The body of the machine is a welded steel cylinder. Four windows made of cellulose acetate, "noninflammable" celluloid, are placed at advantageous points for observing the patient. Five portholes are located below the level of the windows for

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convenient care of the patient. Sponge rubber collars supplied with the respirator are thick and flexible, and, according to the manufacturer, are comfortable for the patient. The respirator bed may be raised or lowered to center the patient's neck in the rubber collar. The bed, equipped with a sponge rubber mattress, is flat at all times. A simple adjustment makes it possible to use either positive and negative pressure or negative pressure alone. The respirator is provided with a low pressure dial gauge especially developed for this purpose. The infant model is similar in operation to the adult respirator. J. H. Emerson, Cambridge, Mass. (Jour. A.M.A., September 17, 1932, p. 995).

Propaganda for Reform

Nirvanol.—The Council on Pharmacy and Chemistry reports that Nirvanol (distributed by the Heyden Chemical Co., New York) is stated to be phenylethylhydantoin and that, while it is supplied on request, no propaganda for it is being made by the distributor. At the present time Nirvanol is proposed primarily for the treatment of chorea. From a review of the literature the following conclusions appear justified: (1) That a fairly large percentage of patients suffering from chorea are relieved by Nirvanol; (2) that there is no evidence that the relief of chorea by Nirvanol lessens the tendency to subsequent cardiac disease; (3) that there is no invariable relationship between the appearance of the various symptoms and the therapeutic effects; (4) that a specific hypersensitiveness to Nirvanol has not been proved; (5) that the side actions are always disagreeable, sometimes alarming, and often positively dangerous, if not even fatal; (6) that the treatment is too severe to justify its use except in those cases that do not yield readily to other treatment; (7) that Nirvanol should not be used in the treatment of chorea except in an institution where the patient is under close supervision. The Council concluded that the treatment of chorea with Nirvanol is in the experimental stage and that further investigation is necessary before an estimate of its value can be reached. (Jour. A.M.A., July 2, 1932, p. 33).

Tar-Me-Cine Not Acceptable for N.N.R.—The Council on Pharmacy and Chemistry reports that "Tar-Me-Cine" (Tar-Me-Cine Laboratories, Inc.) is claimed to be composed of chloral hydrate, resorcin, tartaric acid, phenol, glycerin, menthol, camphor, boric acid and alcohol in stated amounts in a "suitable emollient vehicle." The identity of the ingredients which compose the "suitable emollient vehicle" (which may be the really important part of the mixture) is not declared. According to the label, Tar-Me-Cine is "used in the external treatment of chronic eczema and other skin diseases." The Council finds "Tar-Me-Cine" unacceptable for New and Nonofficial Remedies because the identity of the "suitable emollient vehicle" is not declared and because the identity and amounts of the potent ingredients are not declared on the label; because the recommendations on the label for use in specific diseases may lead to the ill-advised use of the preparation by the laity; because no acceptable evidence is offered for the asserted efficacy of the mixture; because the name of the preparation is not descriptive of its composition; and because it is a complex, unscientific mixture. (Jour. A.M.A., July 2, 1932, p. 34).

Tilton Found Guilty.—Lester Tilton, notorious and aggressive promoter of a nostrum for cancer, was found guilty of conspiracy to violate the medical practice act of the state of Illinois. Similar verdicts were also brought by the jury against two codefendants who aided Tilton in his quackery, Harry

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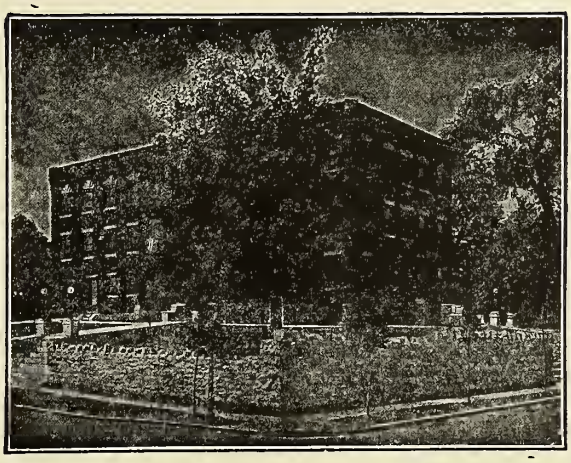

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de Joannis, a promoter, and Joseph Duffy, a licensed physician. Tilton's activities have long been a stench and a disgrace to the Middle West. Tilton's "cancer cure" like practically every other humbug of the type, is an escharotic with a zinc salt as the active ingredient in a base of peat as the "mystery" element. (Jour. A.M.A., July 2, 1932, p. 38).

Fissan Powder, Fissan Sweat Absorbing Powder, Fissan Ointment, Fissan Lotion, Fissan Oil, Fissan Sulphur Powder, Fissan Ointment—R, and Fissan Soap Not Acceptable for N.N.R.—The Council on Pharmacy and Chemistry reports that as "Labile Milk Albumin Preparations," Walter Lehn, Clifton, N. J., offers a line of "Fissan" preparations which are put out by the Deutsche Milchwerke A. G., Zwingenberg-Hessen, Germany. All are stated to contain as an important constituent some derivative of casein which is inadequately defined. The gist of the evidence submitted is that the preparations contain a powder with a great absorbing power, "colloidal silicates," "Fissan Colloid," "fluor-silicic acid colloid," and "colloidal labile milk albumin," which is claimed to be of great therapeutic activity and free from irritation. These are the base of the powders. The Council declared Fissan Powder, Fissan Sweat Absorbing Powder, Fissan Ointment, Fissan Lotion, Fissan Oil, Fissan Sulphur Powder, Fissan Ointment-R and Fissan Soap unacceptable for New and Nonofficial Remedies because no adequate statement of composition has been supplied; because the names are unacceptable since they are not descriptive of composition, and because the advertising claims are extravagant and unwarranted. (Jour. A.M.A., July 15, 1932, p. 223).

Exicol Not Acceptable for N.N.R.—The Council on Pharmacy and Chemistry reports that in 1930 Exicol (Brooklyn Scientific Products Co., Inc.) was declared unacceptable for New and Nonofficial Remedies because it was found to be a needlessly complex and therefore unscientific mixture marketed with unwarranted therapeutic claims under a nondescriptive but therapeutically suggestive name. The product was then stated to contain in each capsule "Oleic Acid 15 min., Sodium Taurocholate ¼ gr., Sodium Glycocholate ¼ gr., Desiccated Pig's Bile 1 gr., Oil of Cinnamon U.S.P. ¼ min." To meet the Council's criticisms the manufacturer has eliminated pig's bile from the preparation and substituted larger amounts of sodium glycocholate and sodium taurocholate, and has proposed to rename the product "Choleol" or "Olechol," but these names are equally unacceptable with "Exicol." The Council declared Exicol unacceptable (a) because it is an unoriginal combination of substances which have been in use for many years, bearing a trade name that is not descriptive of the composition; (b) because the advertising advances unwarranted claims; (c) because it is used to advertise an unaccepted preparation, and (d) because the statement of composition does not appear on the label or in the submitted advertising, though it is included in the trade package in the form of a slip. (Jour. A.M.A., July 16, 1932, p. 224).

Analytic Statements on Labels and in Advertising.—The Committee on Foods reports that analytic statements on labels and in advertising shall be expressed in such terms as will enable correct technical and popular interpretation and be properly and truthfully informative. Listed analytic components shall be named in conformity with the methods used in their determination and preferably those of the Book of Methods of the Association of Official Agricultural Chemists. The percentage values should be expressed in figures with significance only. (Jour. A.M A., September 3, 1932, p. 833).

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ORIGINAL ARTICLES

SOME OBSERVATIONS ON SMALLPOX*

George W. Davis, M.D.

Ottawa, Kansas

From a summary of the communicable diseases for the past quarter of a century I bring to your attention the following facts of record: During this period there have been 60,296 cases and 301 deaths from smallpox. The year 1918 showed 7,078 cases with only 26 deaths; while the winter of 1921 and 1922 there were only 5,472 cases with the appalling death toll of 116, due to introduction of hemorrhagic smallpox from Kansas City.

For the years 1930 and 1931 there were only 4,951 cases in Kansas with 21 deaths. Franklin county had 301 of these cases; further reference to these reports show that for the past decade the county had only 169 cases, or 16.9 cases per annum which suddenly jumped to 301 recorded cases and fortunately, no deaths for that period.

SMALLPOX IS A CRUEL DISEASE

Dr. Jay F. Shamberg of Philadelphia says "Smallpox more than any other disease has inspired fear and terror in the popular mind because of its loathsome appearance, its extreme contagiousness and its disfiguring or deadly consequences."

By long series of immunizations it has become somewhat attentuated and most of its outbreaks are mild, yet, nevertheless, it may break out in virulence and do much damage.

I believe a consideration of this subject is worth while. Some unusual conditions accompanied the epidemic in our county two years ago that inspired the writing of this paper.

Franklin, is an average county in the second congressional district of Kansas. Bounded by Douglas, Osage, Coffey, Anderson and Miami. Twenty-four miles square, cut through by the Marais des Cygnes River. Has a population of 23,000 agricultural rural people. Its county seat is Ottawa with a population of 10,000.

The county commissioners and part time health officer constitute its board of health. In the late autumn of 1929 we had an epidemic of diphtheria that resulted in nine deaths. The state board of health came and assisted the local board in its control and while the necessary steps were being taken for its suppression there developed an organized opposition in the form of a local chapter of The American Medical Liberty League. This group objected to all the measures provided by law for control of such an epidemic; did interfere with the work of the borad of health to some extent, and by their interference prevented many children from the immunization freely given by the county, and so left open the way for a return of diphtheria in the fall of 1930, which came during November. In this event the local board handled the epidemic, but met with much more determined resistance from the anti-serologist group mentioned.

These objectors took paid space in the daily paper to oppose the board; visited houses; tore down placards and urged families not to let the health officer see, culture or treat their children. While this affair was disturbing our community smallpox broke out and soon became the major epidemic. The board of health notified the public through the press that a general outbreak might be looked for and urged that people go to their family physicians for renewal of their immunities against the disease.

*Read at the 74th annual meeting of the Kansas Medical Society, May 3, 4 and 5, 1932, Kansas City, Kansas.

AMERICAN MEDICAL LIBERTY LEAGUE SHOWS ITS HAND

Particularly to oppose vaccination and break what little law the State of Kansas had on vaccination this organization sent its vice president and lecturer Wm. McCormack from headquarters in Chicago.

By the time schools closed for the Christmas vacation there were over half a hundred cases and the school closed under the standard form of order that applies to any school district that develops one case of smallpox in the school. Closed for one week for vaccinations and all children returning under absence of 25 days must have successful vaccination.

THREE HUNDRED CASES OF SMALLPOX

The object of the writer in taking up the time of this meeting this morning and space in the Journal is: (1) to express confidence in vaccination as a preventive for smallpox; (2) to urge continued campaign of vaccination; (3) reiterate my belief in the abandonment of quarantine for this preventable disease; (4) offer some observations on diagnosis and some suggestions on care and treatment of smallpox, and (5) recount some difficulties that beset health groups in combating untoward influences of mercenary propagandists who prey on the credulity of the unwary, and so, increase the social economic waste of communicable disease.

Dr. C. H. Kinnaman, to whom I am indebted for statistics, who will open the discussion collaborated with me to some extent. From him I quote:

"Kansas people since 1921 have neglected to have their children vaccinated, and every state that neglects this protective measure against smallpox pays, for the severe type of this disease never fails to eventually hit the unprotected community, and it occasionally strikes hard.

"The experience of the past years of Kansas City, Detroit, the state of Minnesota and California are examples of how this disease may change from a mild to a most virulent type; and hundreds of people lose their lives from this loathsome disease before the susceptible population can gain immunity by vaccination.

"In the nine states having compulsory vaccination laws the total number of cases does not equal the number of cases reported in Kansas for the year 1931.

"Vaccination and vaccination alone will prevent smallpox. Kansas has only a meager apology for a vaccination law. A fragment applying to school districts wherein one case of the disease has occurred, and then such children as do not want to be vaccinated may remain away from school for twenty-five days, and then return, still unvaccinated."

Meantime Kansas keeps an antiquated illogical law quarantining smallpox when it is a wholly preventable disease.

During the month of November, while the board of health was wrestling with its second diphtheria outbreak and trying to control other communicable diseases as before mentioned, a citizen of Miami county visited at the home of her sister in Ottawa. The sister called me to come to her house to see a case of what she believed was smallpox. I went, but, the patient had hastily left for her home. I telephoned to Dr. Van Pelt, the health officer of Miami county. I do not know what disposition he made of the case but, I do know that his county later developed an epidemic of smallpox, second, only, I think, to our county.

On the 16th day of November two cases of smallpox were reported by two physicians in widely separate parts of Ottawa. Cases were quarantined. Proper vaccinations done and children withdrawn from school for observation, and notice of a probable epidemic of the disease was given to the public, together with advice for everybody to go to their physicians for vaccination. During the remainder of November the cases broke out at about the rate of one a day. The rapid increase of smallpox stimulated private vaccinations and the health office became very active with immunization of the indigent patients recommended by the commissioner of the poor.

Many of the cases reported were coming out of the high school and was beginning to disrupt school schedules quite seriously. Increase of number of cases

went on rapidly through December, and when schools closed for the holidays, they did so under an order from the state board of health, which order was later repeatedly given to such schools as developed one case.

It is interesting to note that no county wide order for closing schools on account of smallpox can be made in Kansas. Each school district is a unit unto itself in the matter of smallpox control.

A copy of the order is here given, that those of you who have not had this experience may know what the authority for closing schools in Kansas, consists of.

The copy hereto attached and made a part of this paper was issued to a particular school district, is a fac-simile of all such orders and reads as follows:

Topeka, Kansas, January 28, 1931.

Geo. W. Davis, M.D.,
County Health Officer,
Ottawa, Kansas.

Dear Doctor Davis:

We have been informed of the exposure of the students of Minneola School, District No. 5, to smallpox. Since there is, therefore, danger of a serious epidemic of this disease this constitutes your authority under the provisions of Rule XXV, paragraphs "a", "b", "c", "d", "e" and "f" of the Rules and Regulations of the State Board of Health, to exclude all teachers, students, janitors or helpers from this school until they are successfully vaccinated against smallpox, unless they can present evidence of a successful vaccination within seven years previous.

This rule is to be in force and effect for a period of twenty-five days after the exposure of all such persons connected with Minneola School District No. 5.

Given under my hand and seal this Twenty-eighth day of January, 1931.

Yours very truly,

EARLE G. BROWN, M.D.,
Secretary and Executive Officer,
Kansas State Board of Health.

AN APOLOGY FOR A COMPULSORY VACCINATION LAW

Here I emphasize the fact that the only attempt at compulsory vaccination in Kansas law is contained and embraced in the foregoing notice as it applies to smallpox. The weak point in the law is the exemption, of all conscientious objectors, antivivisectionists, anti-vaccinationists, anti-serologists and any other kind of a anti that permits them to get their children by with a penalty of only 25 days loss of school. A taboo of not much consequence to the class of people that are led away from safety by unscrupulous, mercenary social rebels.

Schools closed under the order mentioned on the evening of December 19. Then, came our Nemesis. The daily paper carried a notice that there would be an anti-vaccination mass meeting at the court house that night, sponsored by The American Liberty League and led by its national lecturer.

I attended this meeting, as did several other members of the Franklin County Medical Society. The court house was full. Experiences of the past year had created a sufficient interest that the speaker had an unusually large audience for conservative Ottawa. His program consisted of a long, disgustingly false history of the discovery, progress and development of vaccination. He showed many pictures, gathered mostly in England showing, as he claimed, the terrible ravages of vaccination during the past century. Not forgetting to tell the listeners of the girl, who developed bovine characteristics, including a full growth of cow hair in her abdomen.

The speaker addressed his audience with vile, vituperative, reprehensible language. Heaping abuse on the board of health, county commissioners, superintendent, sheriff, health officer, and the medical profession.

In the end he called for members to join the order at $5.00 per and proceeded to recruit the organization with zealots. A petition was made asking the resignation of the health officer and rescinding of the quarantine order, and later presented to the commissioners at the next day session.

The petition was read, and before it could be discussed, Dr. Kinnaman rose to the point of order that the commissioners had no jurisdiction. It was out of their hands. The order emanated, properly from the state board of health, and the state would hold the local board responsible for its execution.

Meanwhile cases of smallpox were increasing. The state furnished all the vaccine the county needed, without expense. Family physicians made special rates and the health officer vaccinated indi-

gent. A wholesale immunization went on, and, by the end of the year there were 52 reported cases of smallpox and over three thousand vaccinations. Members of the opposition cult increased their activities and program of interference.

Again house to house canvas was made by them and people were again urged to tear down placards and break quarantine. To refuse vaccination, and go ahead and hold their children out the 25 day period, or join with them in a militant attempt to force their unvaccinated children into the immune schools when they should open on the following January 5.

This overt act they attempted. Their leader took a group of non-immunes with their parents and others and undertook to force them in the first day. They were evicted by the police and disbanded. Their leader then announced that no further effort would be made to force the schools to accept the unvaccinated children; but that, he with the attorneys for the league in Chicago would demand and get 5 dollars a day for each child so deprived of school privilege. That they would sue the authorities and collect a much coveted $125.00 for them. This threat frightened our school board and it took the assurance of the attorney general to satisfy them that they had nothing to fear.

So much time of this meeting and space in the Journal would not be taken, were it not for the fact that this anti vaccination organization picked on Franklin county to oppose what little vaccination law the state of Kansas had

They did obstruct the efforts of the board to execute the law. Interfered with immunization and permitted increased number of cases with large additional expense and danger.

As has been stated there were in all over three hundred reported and quarantined cases and we have subsequently learned that there were many hidden cases, that were not counted.

There is no very definite way of telling how many successful vaccinations were done in the county, but, we believe, that at least 25 per cent of the population of the county was immunized and the epidemic trailed along to its close by midsummer of 1931.

This outbreak of smallpox was characterized by its mildness in general. My collaborator, Dr. Kinnaman, has called our attention to the unfortunate circumstance of the epidemic outbreak of hemorrhagic smallpox that appeared in Kansas City in 1921, and remarked that we never can tell when an epidemic may arrive that develops a high percentage of mortality.

We had upwards of 50 patients that developed a confluent type of the disease and were dangerously ill, but we had no deaths during the epidemic.

CARE AND TREATMENT OF SMALLPOX WITH OBSERVATIONS ON DIFFERENTIAL DIAGNOSIS OF VARIOLA AND CHICKENPOX

I believe that mild weather is a favorable factor for communities stricken as was ours. Search of records and statistics in works of reference on this subject reveals the fact that in Europe and in all the rest of the world lying in the temperate zones greatest fatalities have been coordinated with coldest winters.

Last year we had a very light winter. Records of the weather bureau show that the thermometer did not go below zero in the year 1931. Our cases were easy to treat. The local profession, as soon as they had reported a case to me, turned the patient over to me for further care. Families were given advice as to isolation, feeding, cleanliness, and some medication. Somewhat routinely I prescribed digitalis, cascara, castor oil, calomel, citro-carbonate, lemonade, etc., where indicated.

For patients in the febrile stage, I quite generally recommended acetanilide compound to reduce the temperature, induce sweating, quiet nervousness and relieve pain. I did use a routine cosmetic application which I learned from Dr. Lowell, medical officer of the United States army with whom I came in contact in Manchuria. It consisted of a stock solution of Oil of Bergamot an ounce, Chloride of Zinc a drachm and liquid paraffin a gallon. Of this solution I prescribed a pint for each patient. Our pa-

tients all used this economical solution freely, and while we had some confluent cases with severe eruption, yet, they came through with little permanent pitting.

Here I offer a few fundamental observations on differential diagnosis of chickenpox and smallpox:

Distribution of the lesions is the first point to be observed. The eruption of smallpox prefers the exposed or least protected portions of the body: face, neck, forearms, lower legs, and feet. In chickenpox the distribution is exactly reversed: the trunk will show the greatest number of lesions, diminishing the farther out we look at the extremities. The face alone, and maybe the palms are moot areas. Eruptions in the most protected areas, such as, axilla, groin, inner arms, thighs, and small of the back indicate chickenpox.

The second observation should be the general appearance of the lesions. In smallpox they are similar in size, shape, age, and tendency to circular outline.

In chickenpox the lesions differ markedly in size, age, shape, and condition; some are oval, some irregular. New lesions and older in a proximate area. Smallpox usually show first on the face and chickenpox on the trunk.

Smallpox lesions are slow passing through the various stages of evolution, while chickenpox eruption is rapid in development.

Dr. Laidlow of the United States Public Health Service says, "umbilication is an uncertain differentiation symptom. It may occur in both diseases or, it may be absent. Shottiness depends too much on the tactile sense of the observer, and lastly, the palms of the hand may be broken out in both diseases."

MANAGEMENT OF CONTACTS AND PRODROMAL PATIENTS

Our contacts were quite universally vaccinated, when they would permit it, in the adults, and, when parents consent could be obtained, all children in the home and all contact children received the same attention. The multiple pressure method recommended by the state board was quite generally used.

Contacts were warned that vaccination might be too late to immunize them against an attack, but all were encouraged to expect, at least, ameliorization of the attack which result I called "short cut smallpox" that would complete their immunity.

Many who had exposures and many attendants did have such short cut smallpox and many had a typical vaccine reaction and did not develop the disease.

REGARDING SITE OF VACCINATION

We believe this is quite important. A vaccination can be made on any part of the body. Obviously a conveniently accessible part should be most practical. And so it has come about that the most common site for vaccination is on the upper arm and certain physiological phenomena make it the best location.

There are some female subjects who for cosmetic reasons, dictated by fashion's decree, permit vaccination only on the lower limb. Such yielding to secondary choice of location should be accompanied with the advice that greater liklihood of infection, greater pain and deformity may result.

In all, the more than four thousand vaccinations done by the author's office in that epidemic the only ones where we had any unfortunate sequella were patients that insisted on being vaccinated on the leg, and whose occupations kept them on their feet during the incubation period.

OPPONENTS TO VACCINATION NOT TECHNICALLY QUALIFIED

People often pertinently ask: If vaccination is a positive preventive for smallpox, such a loathsome pestilential disease, why should any one be opposed to it? People have a natural antipathy to coercive measures designed for public welfare coming within the exercise of police power. And, this subject should be handled in such a manner by the law that all the civilian population would have to be as immune as is the military forces of our country.

Kansas should join the other states that have a compulsory vaccination law. Young men are growing up and coming into our legislatures. They know the value of a compulsory law, but they are

keen enough to see the inconsistency of trying to make such a law as long as the medical profession acquiesce in the present quarantine attempt to regulate a wholly preventable disease.

Such men will do their duty when this state medical society sounds the call and asks for a more enlightened law for control of smallpox.

HOW EARLY SHOULD A CHILD BE VACCINATED?

Dr. Kinnaman says a child should be vaccinated by the time it is one year old. To this, we, in a general way, agree, but we have vaccinated earlier.

During our epidemic we vaccinated three new born babes from mothers that were broken out with smallpox. Two of them gave normal vaccine reactions, and one, though repeatedly tried did not respond to the vaccination.

This raises a question for some of you who have had more experience as to whether a child in utero is ever immunized.

We believe that whenever our state enacts a compulsory vaccination law that this procedure should be coupled with our present law requiring the use of nitrate of silver in the eyes.

Grease 'em. Weigh 'em. Vaccinate 'em, and *water 'em,* should become the accoucher's motto.

ON THE ABORTION OF SMALLPOX WITH SALVARSAN

On the etiology of smallpox, Dr. Paul F. Stookey, attending physician isolation department Kansas City General Hospital, seems to have struck a trail. He has his nose to the ground. Baying soft! Scent getting stronger. Running quiet, yet. But, may tree something soon.

While he was examining pus from a nonluetic patient that was broken out with smallpox, he found something that he believed was some type of spirochete. Having discovered this entity, he set to work to apply his discovery to a practical end. This was a spirochete. Salvarsan would kill spirochetes. He tried it. He chose a sturdy, unvaccinated male prodrome. Gave a physiological dose of salvarsan. The patient did not break out with smallpox. He tried the salvarsan several times on well chosen prodromal cases, with like success. This led him to a reasonable conclusion as to a spirochete being an etiological factor in smallpox. A step ahead along the way to this hitherto unsolved enigma.

When Dr. Stookey learned of outbreak in our county, he sent his assistant, Dr. George Driver, to join our board of health where probable opportunity would be given for testing the salvarsan in a rural population. Dr. Driver, who had seen many cases of smallpox in the General Hospital, became a useful member of our staff. He accompanied me to reported cases, and was a great help to us in the capacity of differential diagnosis in moot cases. While here Dr. Driver attended the Franklin County Medical Society and told the profession about the work of Dr. Stookey and what they were trying to work out. He did not get to treat a case, in the short time that he was with us, but he taught us the technique and indications, and we later treated nine well chosen, sturdy, adult, male, prodromal patients and gave them the arsenical with apparent abortive results. Each patient being subsequently tried with vaccination without reaction.

We take off our hat to Dr. Paul W. Stookey. It takes little genius to discover something by accident, but great credit should be given to him, who recognizes the new thing; and greater credit yet to him who tries to apply the results of his discovery to a practical end.

We hope to hear more from Dr. Stookey's experiment.

RECAPITULATING IN CONCLUSION

Is this subject worth while? Is smallpox still a dangerous disease? Why should not the great progressive state of Kansas join the other nine states that have compulsory vaccination. Dr. Kinnaman has told you that our state had more smallpox in 1931 than all the other nine states that do have such laws.

I read you from the summary of the diseases of Kansas for the past quarter of a century that in that time Kansas has had 60,296 cases of smallpox with 301 deaths. By reference to the same document I have shown you how in the

years of 1921 and 1922 we had 116 of these deaths and cited your attention that most of them were in the eastern counties, coming from the epidemic of hemorrhagic smallpox in Kansas City of that winter. And this shows what a loathsome and virulent thing the disease may become when the index of public immunity falls dangerously low, by lack of law and individual neglect.

We have shown that Franklin county had only 169 for the preceeding decade and how in the epidemic of the winter of 1930 and 1931 we had 301 cases.

How an anti-vaccinationist organization of Chicago, that has insinuated its slimy fingers into the health laws of Illinois until that state has become the "hot bed" of smallpox incubation for the nation.

How that organization undertook to break the efficiency of what little law our state had for the control of smallpox.

How, by the support of the state board of health our wishbones coupled up to our backbones, and how we met, with the aid of the state board, the attack and sustained the dignity of the state.

Before Jenner's time, before vaccination came into use, and before vaccination was known to prevent smallpox, quarantine was a useful expedient, but, in the light of modern experience, it is now time to do away with such monkey business.

The medical profession know the facts. They should be pioneers in a *removement* that will establish greater confidence in preventive measures to stop smallpox.

I sounded the call for a movement in this body at Salina, reiterated it at Topeka, and talked about it at Manhattan, and now again, in connection with this paper, I am calling upon this society to take the initiative in a movement in our legislature for a compulsory vaccination law and the abandonment of our inconsistent quarantine for smallpox.

Vaccination for the control is partially believed by laymen. The regular medical profession is wholly committed to it. So long, then as they acquiesce in the glowing inconsistency of quarantine, they contribute to a more glowing inconsistency, not commensurate with their attitude on other matters of public welfare.

Legislators enacted the quarantine law, at the instigation of a divided profession, not then wholly committed to the doctrine that the disease is preventable.

Legislators will repeal the law when a united profession, confirmed in their belief, educate them that a *preventable disease needs no quarantine.*

———℞———

STRICTURE OF THE ESOPHAGUS WITH REPORT OF CASE*

L. D. Johnson, M.D.
Chanute, Kansas

B. P., female, seventeen years of age, occupation school girl. Family history negative, except that her father died at the age of 49 with a diagnosis of acute indigestion. Her complaint on admission, October 4, 1929, was of cough, the onset of which dated back to April. The history at that time was that she had first contracted a severe cold about eighteen months before. There was nothing unusual about the cold, only it prolonged for several months. The cough was mostly in the morning. There was a history of coughing up a thin froth, at times coughing until she vomited. There had been no loss in weight, no pain and no night sweats. She slept well at night. There was some difficulty on swallowing, some shortness of breath and some wheezing in the throat when sleeping.

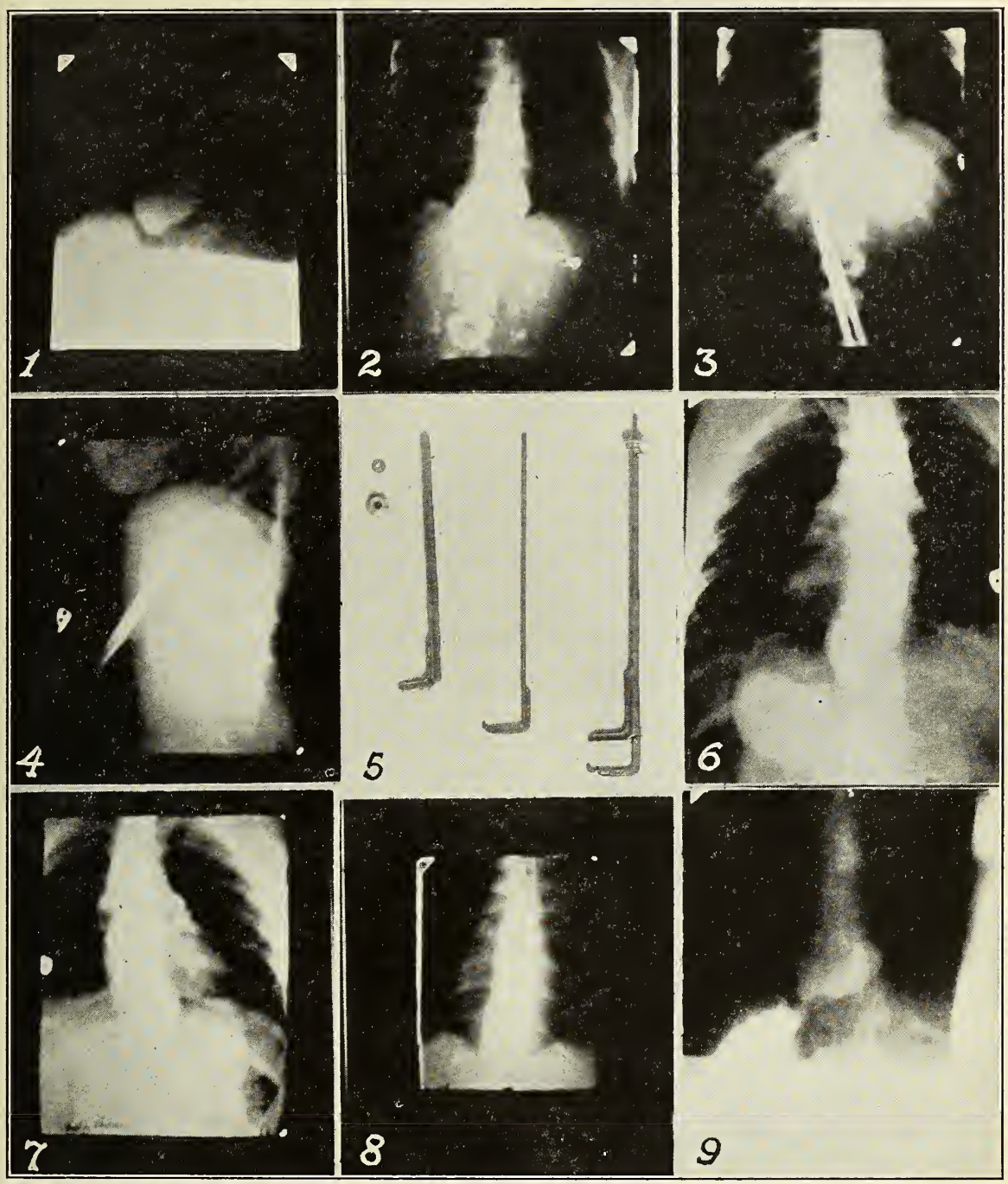
Lungs and heart were negative. The patient was 5 feet 2 inches in height and weighed 111 pounds. Our inability to find any trouble in the lungs lead to further examination by the *x*-ray, which revealed a stricture in the cardiac end of the stomach, with a great deal of dilatation in the lower end of the esophagus. The patient at this time was growing rapidly worse with dysphagia and we were unable to pass a bougie into the stomach. The patient was given a shot on the end of a silk string to swallow; these passed into the stomach after about 72 hours, but we were still unable to pass

*Read at the 74th annual meeting of the Kansas Medical Society, May 3, 4 and 5, 1932, Kansas City, Kansas.

a bougie through the cardiac end of the stomach. The patient was gradually losing weight and strength and, therefore, a gastrostomy was performed on November 11, 1929. At the time the gastrostomy was performed, a hydrostatic dilator was inserted into the cardiac end of the stomach and the opening was dilated to about 1 inch in diameter, under guidance of visualization with the instrument in position. The gastrostomy opening was left with a string passed through the mouth and out through the gastrostomy opening. Dilatation was continued for a period of practically one year, at intervals of a few days in the beginning to about two month intervals at the end of the time. The continual pulling and working through the gastrostomy opening, of course, produced an enlarged opening and a considerable amount of drainage, which made the patient a little sore.

She was taken to one of our leading surgeons in Chicago for consultation and he was solicited to perform an operation on the lower end of the esophagus, which he refused to do. He said to leave the patient alone and let her expectorate her food through a tube into the stomach, inasmuch as her condition was up to normal. This the girl did with very much regret, because, as veryone knows, there is always an odor from a gastrostomy opening which leaks and, also, one is socially ostracized when required to chew food and expectorate through a tube. Therefore, the mother and the daughter were talked to very seriously about an operation that I had in mind at the time we consulted our Chicago colleague, *i.e.*, the manufacturing of some clamps which would cut slowly through by compression, and the introduction of these clamps into the lower end of the esophagus, with the idea of cutting the constricting bands and allowing food to pass from the esophagus into the stomach in the normal way. The patient was told frankly the gravity of this operation and decided she would rather have the operation, even if she lost her life, than go through life passing the food from the mouth into the stomach through the gastrostomy opening.

On April 25, 1931, the patient was given spinal anesthesia—one-third grain of novocain dissolved in ½ c.c. of salt solution, between the first and second lumbar vertebrae. An incision was made a trifle to the left of the median line from the ensiform appendix to the umbilicus muscle, transplanting the rectus muscle outward. The peritoneum was opened posterior to the muscle. The stomach was brought into the incision and a large opening made into the anterior surface high up. The cardiac opening was picked up and the esophagus was dilated to an extent so the clamps could be passed into the esophagus. I found great aid in pulling the esophageal opening down by using a Young's prostatic dilator. The only objection I can see to a Young's dilator is that it is not long enough, but it is passed the same way as it would be in a peritoneal prostatectomy and the retractor is gradually drawn down toward the abdominal wall, bringing the cardiac opening as low as possible without injury to the esophageal opening. With this brought into view the clamps were placed with the male blade in the esophagus through the cardiac opening, while the female blade was gradually forced down, not cutting through the tissues, but making it tight enough so that the clamps could not slip, and each day they were screwed tighter. The blade of the instrument was made about 1 inch in length and for fear that one instrument would not leave a large enough opening in the esophagus, a twin instrument was made, which was left in position and treated in a like manner. Both clamps were tightened each day until we had a necrosis of the tissues, leaving a large cardiac opening. The wound was closed as nearly as possible around the instruments, which let loose on the eighth day and were removed. The patient made an uneventful recovery and was not critically ill. She left the hospital at the end of two weeks with the gastrostomy opening still open. I did not wish to close this until I was sure that the cardiac opening was in good functioning condition. The gastrostomy opening was completely closed on the fifth day of May, 1931, leaving ample time intervening to be sure that we would not



No. 1. Following complete obstruction. Vertical fluoroscope.
No. 2. Same as No. 1.
No. 3. Showing instruments in position following operation.
No. 4. Lateral view of same.
No. 5. Instruments manufactured by K. W. Battery Co.
No. 6. Showing the dilatation of the esophagus and the passage of food following the operation.
No. 7. Same as No. 6—immediately afterwards.
No. 8. Same as No. 7 after an interval of about 8 minutes, showing the gradual emptying of the esophagus.
No. 9. Showing a very small residue, but still some dilatation of the esophagus from the permanent injury to the walls, after a period of fifteen minutes following a meal.

No. 10. Case of obstruction with acute edges of carcinoma of the esophagus.

No. 11. Another carcinoma of the esophagus.

have a recurring stricture of the cardiac opening.

I do not report this case as anything offering a revelation in the treatment of cardiac stenosis. We have had a number of cases which have gotten along nicely where they have a cardiospasm and some where we have a stricture in the cardiac end, which do quite well under dilatation with a bougie or a hydrostatic dilator.

I do not wish at this time to go into the history of stricture of the esophagus and I do not attempt to apply this treatment in any way to strictures that exist high up in the esophagus nor to strictures of a malignant nature, but it seems to me that to young people with retention of food in the esophagus, this will offer a reasonably safe solution for relieving strictures in this location.

This patient was checked on March 20, 1932, and the dilatation of the esophagus is not completely reduced, but the food passed in a few minutes, leaving the esophagus completely empty. This patient, of course, was relieved of her cough as soon as the gastrostomy was performed and she quit trying to swallow food.

VISIBLE EYE DISEASES OF IMPORTANCE TO THE GENERAL PRACTITIONER*

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Kansas City, Kansas

Owing to our limited time, it is my plan to discuss the ordinary group of visible eye diseases, namely, conjunctivitis, iritis and glaucoma, their characteristics and importance.

The inflamed red eye, usually called pink eye, differs little in appearance from iritis or glaucoma to the medical man with no special training. Some of the simple common diseases are easily confused with the more grave conditions and my purpose is to make clear the differential points of these diseases so that the practitioner may know what he is dealing with and see that proper treatment is started. To do this properly, a review of the circulation will help give a better understanding of the differential points.

The two long posterior ciliary arteries, branches of the ophthalmic, perforate the sclera, one on the medial side of the optic nerve and the other on the lateral side a short distance beyond the short ciliary arteries and then pass anteriorly between the sclera and choroid where they enter the ciliary zone. Each artery divides into an ascending and descending branch, and these with the anterior ciliary arteries form an arterial ring called the circulus iridis major. Branches are given off to the ciliary muscle, the ciliary process and iris which contains the circulus iridis minor.

The anterior ciliary arteries are very

*Read before the Wyandotte County Medical Society, April 5, 1932.

small vessels which arise from the branches of supply to the recti muscles of the ophthalmic artery. They perforate the sclera close to the margin of the cornea and take part in the formation of the circulus iridis major as above mentioned. They also supply the conjunctiva of the eye ball which also receives its chief supply from the vessels of the retrotarsal fold. These two preceeding systems, namely, the anterior ciliary arteries and the conjunctival vessels, anastomose freely, the loops of which lie at the limbus. The small veins collect the blood and unite into four or more vortices which carry the blood from the eye ball.

Now is there any reason in violent diseases of the anterior portion of the eye, why we should not get two types of congestions: (1) superficial or conjunctival injection and (2) deep or ciliary injection when the two systems anastomose so freely? A differential of the two types is as follows:

Conjunctival Injection

1. Derived from posterior conjunctival vessels.
2. Accompanies diseases of the conjunctiva.
3. More or less muco-purulent or purulent discharge.
4. Most marked in fornix conjunctivae.
5. Fades as it approaches the cornea.
6. Bright, brick-red color.
7. Composed of a network of coarse, tortuous vessels, anastomosing freely, and placed superficially, so that the meshes are easily recognized.
8. Can be moved with the conjunctiva by pressure on lower lid.

Ciliary Injection

1. Derived from anterior ciliary vessels.
2. Accompanies diseases of the cornea, iris, and ciliary body.
3. Often lacrymation, but no conjunctival discharge.
4. Most marked immediately around the cornea; hence called "circumcorneal."
5. Fades toward the fornix.
6. Pink or lilac color.
7. Composed of small, straight vessels, placed deeply, so that the individual vessels cannot be recognized easily, but are seen indistinctly as fine, straight lines radiating from the cornea.
8. Cannot be displaced by movement of the conjunctiva.

The skill and ingenuity to know these types of injection is a guide to diagnosing the visible eye diseases of the anterior portion of the eye ball.

Acute catarrhal conjunctivitis is a superficial inflammation or infection of the conjunctiva having a rapid onset; conjunctival injection of greater or less degree; mucoid or muco-purulent discharge; itching and smarting sensation of the lids, lids feel hot, heavy and as though there was a foreign body underneath. There may be some photophobia, not confined to one eye but may be on the start, usually lasts from a few days to a few weeks and then clears up. Blepharitis and ulcer are the more common complications.

Most authors state iritis or cyclitis are rare, because the iris springs from the ciliary body and in most cases we have to do with a combination of the two, an irido-cyclitis. For practical purposes we will consider iritis separately. Acute iritis is an inflammation of the iris having circumcorneal injection, or deep injection. The iris is swollen, dull and discolored. The pupil is small, irregular, sluggish and adherent to the lens capsule (posterior synechiae). The anterior chamber is turbid and may contain blood, (hyphoena) or pus, (hypopyon). The anterior chamber is usually normal depth. The tension is normal but may be increased or diminished. The symptoms are: pain, photophobia, lacrimation and some interference with vision. In the severe forms the adjacent structures, conjunctiva, cornea, ciliary body, choroid, vitreous, optic nerve and retina are sometimes involved.

Glaucoma is an increase in intraocular pressure from which all the important symptoms can be deduced. The following is a classification of the types:

I. Primary, when occuring without antecedent ocular disease.

1. Inflammatory or congestive
   A. acute

B. chronic.

2. Non-inflammatory or simple.

II. Secondary, when following some other disease of the eye.

These forms are usually preceeded by prodromal symptoms, which are: diminution in the acuity of vision, fogginess, rainbow or tints around lights, clouded cornea, pain in the eye, shallow anterior chamber, dilated pupil, increased tension and slight circumcorneal injection. These symptoms last for some hours then disappear, the eye returning to normal except for a lessened power of accommodation thereby causing the patient to wear stronger corrections. When this occurs in the presbyopic stage, glaucoma should be thought of. The early stages of iritis and glaucoma are frequently mistaken for acute catarrhal conjunctivitis. These conditions are best studied when the differential points are given in table form:

Acute Iritis

1. Iris swollen, dull and discolored.
2. Pupil small, gray, sluggish, and irregular after use of atropine.
3. Anterior chamber of normal depth (deeper in serous form) and presents exudation.
4. Cornea transparent (may present deposits on posterior surface) and sensitive.
5. Ciliary (circumcorneal) injection: pink zone of fine vessels surrounding cornea and fading toward fornix.
6. Conjunctiva usually transparent.
7. Lacrymation but no discharge.
8. Tension usually normal (occasionally increased).
9. Some ciliary tenderness.
10. Pain radiating to forehead and temple, worse at night.
11. Dimness of vision.

Acute Conjunctivitis

1. No change in iris.
2. Pupil normal.
3. Anterior chamber normal.
4. Cornea transparent.
5. Conjunctival injection, coarse meshes, most pronounced in fornix and fading toward the cornea.
6. Conjunctiva reddened and opaque.
7. Mucous or muco-purulent discharge.
8. Tension normal.
9. No ciliary tenderness.
10. Discomfort, hot gritty feeling, but no real pain.
11. No interference with vision, except blurring caused by the discharge smeared over the surface of the cornea.

Acute Glaucoma

1. Iris congested, discolored, dull, periphery pushed forward.
2. Pupil dilated, oval and immobile.
3. Anterior chamber shallow and aqueous sometimes turbid.
4. Cornea steamy and insensitive.
5. Ciliary and episcleral injection (also conjunctival congestion).
6. Conjunctiva congested and chemotic.
7. Lacrymation but no discharge.
8. Tension increased.
9. Ciliary tenderness.
10. Severe pain in and about eye, with headache.
11. Marked dimness of vision.

In conclusion, let me state that everyone, both the laity and the physician should pay more attention to red inflamed eyes, thereby helping to prevent blindness.

FINAL REPORT OF COMMITTEE ON THE COSTS OF MEDICAL CARE*

Five years of work by the fifty members and research staff of the Committee on the Costs of Medical Care have culminated in this final report, entitled "Medical Care for the American People." The majority report was favored by the following:

Private Practice.—Lewellys F. Barker, M.D.; Walter P. Bowers, M.D.; J. Shelton Horsley, M.D.; Stewart R. Roberts, M.D.; Richard M. Smith, M.D.; Walter R. Steiner, M.D., and Rollin T. Woodyatt, M.D.

Institutions and Special Interests.—W. Irving Clark, M.D.; William Darrach, M.D.; Louis I. Dublin, Ph.D.; Elizabeth Fox, R.N.; Ambrose Hunsberger, Phar.M.; Alfred Owre, D.M.D., M.D.; W. S. Rankin, M.D.; Mary M. Roberts, R.N.; Alphonse M. Schwitalla, Ph.D., and Winford H. Smith, M.D.

Public Health.—George H. Bigelow, M.D.; Herman N. Bundesen, M.D.; Haven Emerson, M.D.; John Sundwall, M.D., and C. E. A. Winslow, Dr. P.H.

Social Sciences.—Michael M. Davis, Ph.D.; William T. Foster, Ph.D.; Wesley C. Mitchell, Ph.D.; William F. Ogburn, Ph.D., and Henry C. Taylor, Ph.D.

The Public.—Winthrop W. Aldrich; Morris L. Cooke, D.Sc.; Mrs. William Kinnicutt Draper; Homer Folks, LL.D.; John P. Frey; Mrs. Walter McNab Miller; William J. Schieffelin, Ph.D.; Amelia Sears, and Ray Lyman Wilbur, M.D.

A summary of the majority report follows:

I

"The Committee recommends that medical service, both preventive and therapeutic, should be furnished largely by organized groups of physicians, dentists,

*Abstract of Final Report—J.A.M.A., Dec. 3, 1932.

nurses, pharmacists and other associated personnel. Such groups should be organized, preferably around a hospital, for rendering complete home, office and hospital care. The form of organization should encourage the maintenance of high standards and the development or preservation of a personal relation between patient and physician.

II

"The Committee recommends the extension of all basic public health services—whether provided by governmental or nongovernmental agencies—so that they will be available to the entire population according to its needs. This extension requires primarily increased financial support for official health departments and full-time trained health officers and members of their staffs whose tenure is dependent only on professional and administrative competence.

III

"The Committee recommends that the costs of medical care be placed on a group payment basis, through the use of insurance, through the use of taxation, or through the use of both these methods. This is not meant to preclude the continuation of medical service provided on an individual fee basis for those who prefer the present method. Cash benefits, i. e., compensation for wage-loss due to illness, if and when provided, should be separate and distinct from medical services.

IV

"The Committee recommends that the study, evaluation and coordination of medical service be considered important functions for every state and local community, that agencies be formed to exercise these functions, and that the coordination of rural with urban services receive special attention.

V

"The Committee makes the following recommendations in the field of professional education: (A) That the training of physicians give increasing emphasis to the teaching of health and the prevention of disease; that more effective efforts be made to provide trained health officers; that the social aspects of medical practice be given greater attention; that specialties be restricted to those specially qualified; and that postgraduate educational opportunities be increased; (B) that dental students be given a broader educational background; (C) that pharmaceutical education place more stress on the pharmacist's responsibilities and opportunities for public service; (D) that nursing education be thoroughly remolded to provide well educated and well qualified registered nurses; (E) that less thoroughly trained but competent nursing aides and attendants be provided; (F) that adequate training for nurse-midwives be provided, and (G) that opportunities be offered for the systematic training of hospital and clinic administrators." The first chapter surveys "The Present Status of Medical Care." It reports that 177,000 physicians and dentists, with some 900,000 others at an annual expense of $3,647,000,000, so distribute their services that those in the lower income groups, while suffering as much or more sickness, receive far less medical service than those with a greater income.

There is a lack of preventive health care; indeed, "niggardly appropriations for public health work." The burden of sickness cannot be measured by averages, because of the extreme unevenness with which it is distributed. Fifty per cent of the families in the United States have incomes of less than $2,000, which means that "even less-than-average charges for medical service, therefore, are more than many of our families can bear."

One conclusion reads: *"Certainly no solution to the problems of medical costs can be reached through a reduction in the average of professional incomes"* (italics in original). This average is none too high now to attract a high type of practitioner and permit progress through graduate training and study.

The Committee attempts from the report of some of these investigations to calculate the cost of complete medical care and concludes that "all needed medical care of the kind which people customarily purchase individually could be provided in urban regions at least, at a cost, excluding capital charges, of $20 to $40 per capita per annum."

The second chapter discusses "The Essentials of a Satisfactory Medical Program." Six basic essentials are enumerated:

"1. The plan must safeguard the quality of medical service and preserve the essential personal relationship between patient and physician.

"2. It must provide for the future development of preventive and curative services in such kinds and amounts as will meet the needs of substantially all the people and not merely their present effective demands.

"3. It must provide services on financial terms which the people can and will meet, without undue hardship, through either individual or collective resources.

"4. There should be a full application of existing knowledge to the prevention of disease, so that all medical practice will be permeated with the concept of prevention. The program must include, therefore, not only medical care of the individual and the family but also a well organized and adequately supported public health program.*

"5. The basic plan should include provisions for assisting and guiding patients in the selection of competent practitioners and suitable facilities for medical care.

"6. Adequate and assured payment must be provided to the individuals and agencies which furnish the care."

Having set up these standards, the Majority Report selects three lines of approach to the solution of its problem:

"(a) The development of types of organized or group practice that will more effectively and economically meet the community's medical needs.

"(b) The distribution, over a period of time and over a group of families or individuals, of the costs of service.

"(c) Provision for the planning and coordination, on a local and regional basis, of all health and medical services."

It is evident that the program of the Majority Report centers around "provision of service through organized groups." The groups studied on which conclusions are based covered only fifty such groups; conclusions as to the financial operation of such clinics and especially as to their net and gross income are based on the information furnished by twenty-seven such clinics.

The Majority Report sets up "standards" for group practice and among these emphasizes the statement that *"lay groups organized for profit have no legitimate place in the provision of this vital public service"* (italics in original). This standard, the Committee seems to fail to note, would eliminate many of the examples of group practice on which it depends for the argument previously mentioned leading to the estimate of annual cost.

"Inevitably the Committee has been led to the conclusion that the costs of medical care should be dis-

*The term "public health program" is meant to include the work of the official health departments and of voluntary health agencies.

tributed over groups of people and over periods of time." This leads to the adoption of insurance as a major recommendation. The participation of insurance companies is rejected and taxation accepted only in a secondary form. Having eliminated these, the Majority Report is brought to the somewhat indefinite conclusions that "there should, therefore, be an agency in each community through which the lay and the professional groups concerned in providing and financing medical services could consult, plan and act in behalf of the best provision of medical resources which the community can afford." The character of this "agency" remains indefinite throughout the report.

Chapter three sets up "An Ultimate Objective in the Organization of Medicine." "The keystone of the concept of a satisfactory medical service for the nation is the development of one or more non-profit 'community medical centers' in every city of approximately 15,000 population or more." Then follows a description of such an imaginary center. The Majority Report passes lightly over such questions as the possibility of the redistribution of great medical centers that have been established in most large cities for educational, political, financial or other purposes which render them ill adjusted to fit into such a program.

It assumes that existing hospital organizations can be so transformed but offers little information as to the methods by which this change may be brought about. There is much talk of "coordination and control of services" but there is no definite statement as to what is to constitute this important factor in the program.

Chapter four considers "Plans and Experiments Now Under Way" and lists twenty-five such experiments. Four of these are "under professional sponsorship"; four "under consumer sponsorship"; thirteen are listed as "under community sponsorship with professional participation"; one "under joint sponsorship of professional and consumer groups," and three "under commercial sponsorship." All of these are treated without the specific criticisms necessary to inspection of the foundation stones on which the structure of the national medical service is to be erected.

The Committee concludes that:

"These twenty-five types of development in the United States and the many developments abroad show a ferment at work in medical practice which contains great possibilities for good and evil. The Committee is aware of the fact that some of the plans are mere attempts to capitalize for private gain the people's need for better medical service. It is equally aware of the dangers inherent in other plans. Each should be viewed as an experiment and subjected to the careful evaluation that is given in a scientific laboratory. Some of them appear to the Committee to be very promising."

The fifth chapter includes "The Recommendations of the Committee" previously here quoted. The somewhat vague character of the report is excused by the statement that "the committee believes that its obligations require it to think ahead for twenty or thirty years, as well as for the next five or ten years and to present distant as well as immediate goals."

The Committee's first recommendation that medical service "should be furnished largely by organized groups of physicians, dentists" and so on does not take account of the fact that these groups are already professionally organized in their own associations. Indeed, the existence of these professional associations is almost entirely ignored in the Majority Report.

"The Committee's most fundamental specific proposal is the development of suitable hospitals into comprehensive community medical centers."

Industrial medical service is cited as another step toward the realization of this recommendation, and the Majority Report suggests "that free choice of practitioners should be allowed insofar as practicable."

University medical service is also to be fitted into this scheme. "In 'College towns' it may frequently be feasible to expand the university medical service into a community medical center which serves townspeople as well as students."

The Majority Report recognizes the necessity of measures to maintain the quality of medical service in groups; no recommendations are made concerning relationships with professional associations, the most important bodies for maintaining standards.

The recommendation which will undoubtedly attract the most attention is that "the costs of medical care be placed on a group payment basis, through the use of insurance." The discussion is extremely indefinite. The comments interspersed clearly reflect sharp divisions of opinion in the Committee.

It is suggested that "a state medical society might initiate and standardize the organization of group practice in local areas and serve as a negotiating or mediating body in making the arrangements for group payment." On the whole, however, the Majority Report seems to incline to a voluntary insurance scheme with subsidies from taxation.

There is also the conclusion that making "individual practice and not group practice the logical foundation of the whole system . . . has been one of the chief disadvantages which European countries have faced under compulsory insurance." Examples or evidence in support of this conclusion are not made available.

The Majority Report persistently emphasizes the importance of groups; it looks on insurance "as the most effective possible stimulant to the formation of such groups." It is hard to determine whether the groups are to be the basis or the objective of the program.

Confronted with the problem of the "control of competition," which has hitherto evidently produced deterioration in most of the schemes of contract practice which are discussed, the Majority Report proposes the following devices for its control:

"(a) Provision of medical service in increasing proportions by organized non-profit groups with community backing and control.

"(b) State regulation of the finances to assure actuarial soundness.

"(c) The formulation of general standards and policies, the regulation of charges, and the arbitration of difficulties by the state medical and dental societies or by an officially appointed medical board nominated in large part by the societies."

The Majority Report urges a study by professional groups with lay participants as a preliminary to the installation of any program.

In the final chapter, "The Challenge of the Future," appears recognition of the place of such professional associations. The report says:

"The cooperation of the professional groups in community or state leadership is essential. Their stake in these issues is very large; their interest is continuing. They should instigate as well as guide. The crucial point in the generalship of the forces at work is, perhaps, the development of a proper relation between the professional and the lay groups. The public should recognize the central place of the professional groups in determining standards and methods. The professions should recognize their ultimate responsibilities to the public. The control of undesirable commercial enterprises in this field will depend largely on the watchfulness of the profes-

sional bodies, on their ability to enlist lay cooperation, and on the development of sound and successfully operating non-commercial plans.

"Continued study of the complex problems of medical economics is of the first importance. The Committee's investigations have opened a way. Fortunately, professional societies are establishing bureaus and committees on medical economics. Because a university has the unique advantage of having both medical and social scientists in one organization, the Committee has formally recommended to the universities of the country that they conduct research in this field."

Minority Reports

Two minority reports and two statements constitute the views of those members of the committee who found themselves in conflict with the general tone or trend of the majority report.

FIRST MINORITY REPORT

The first minority report, which was signed by A. Christie, M.D., George E. Follansbee, M.D., M. L. Harris, M.D., Kirby S. Howlett, M.D., A. C. Morgan, M.D., Olin West, M.D., Robert Wilson, M.D., and N. B. Van Etten, M.D., draws attention to the failure of the Committee to show by facts that "organization" can accomplish what is claimed for it in the majority report. There is nothing in the experience of the medical profession to show that the "Community Medical Center" is a workable scheme or that it would not contain evils of its own which might be worse than the evils it is supposed to alleviate. This Medical Center Plan is suggestive of the great mergers in industry in which mass production and centralized control are the principal features. It apparently disregards the fundamentals which make medicine a personal service and which require that the individual patient and not disease or economic classes or groups be the object of medical care.

The objections to the Medical Center Plan are summarized as follows:

1. It would establish a medical hierarchy in every community to dictate who might practice medicine there.
2. It would be impossible to prevent competition among the many such centers necessary for large cities; cost would inevitably be increased by the organization necessary to assign patients to the various centers. This would add to the evils of medical dictatorship those of a new bureau in the local government with its attendant cost.
3. Continuous personal relationship of physician and patient would be difficult if not impossible under such conditions.

In the opinion of this minority group, the question of "Industrial Medical Service" has not been adequately or fairly dealt with in the majority report. For each of the favorable reports published (publications Nos. 5, 18 and 20) many instances could be cited wherein the results of industrial medical services have been exceedingly unfavorable. It is pointed out that in industrial medical services, mutual benefit associations, so-called health and hospital associations, and other forms of contract practice, no means have been found to prevent destructive competition between individuals or groups concerned with these movements. The studies published by the Committee show only the favorable aspects. They were selected because they were considered the most favorable examples of this type of practice in the United States. For each of these plans a score of the opposite kind can be found.

Utilization of subsidiary personnel is nothing new in medical practice. Already there is constant temptation in many fields to permit technicians to perform duties entirely unjustified by their knowledge and training. The minority expresses a word of caution relative to the dangers involved in permitting non-medical technicians to assume the duties which only physicians should undertake.

The Committee's first recommendation that medical service "should be furnished largely by organized groups of physicians, dentists" and so on is apparently predicated on the Committee's study on "Private Group Clinics." This minority group believes that the establishment of such clinics is in line of progress when they are a natural outgrowth of local conditions, but the studies published by the Committee, in the opinion of the minority, were far too few in number to constitute a safe base on which to erect so large and revolutionary a structure as is proposed. The majority report fails to consider the fact that multiplication of clinics or groups in large communities results in duplication of expensive equipment far beyond the needs of the community. Such a multiplication of medical facilities, instead of reducing overhead and the costs of medical care to the community, adds to this cost through the duplication of plants. It is significant to note that the overhead in private medical practice averages only about 2 per cent higher than for medical groups in the lower brackets of gross income. As the gross income rises, the ratio of overhead becomes progressively less significant.

Other disadvantages of group practice are: restriction of freedom of action in respect to vacations, study, travel, attendance on scientific meetings and even publication of medical articles to all members except the heads of the group; comparatively static income of members of a group except that of the owner or owners; salary cuts, then discharge of employees to reduce overhead in times of depression; disruption of groups through death or disability of some able man or men around whom the group has been built, and the difficulty with which physicians are able to find employment in another group or are able to enter private practice when a group closes.

In spite of the extensive data available on the insurance systems of Europe and the evidence which can be produced to show that voluntary health insurance schemes have everywhere failed, the majority of the Committee makes the definite recommendation that this country adopt the thoroughly discredited method of voluntary insurance. A system of voluntary health insurance tied to the visionary medical center plan, which is offered as the "keystone" of all medical service, would plunge the medical profession into similar or more difficult problems than have been experienced by the European professions in its struggle against the various European insurance schemes. In the United States, contract practice is essentially health insurance and has already given rise to destructive competition among professional groups, inferior medical service, loss of personal relationship of patient and physician, and demoralization of the profession. It is clear that all such schemes are contrary to sound public policy and that the shortest road to commercialism of the practice of medicine is through the supposedly rosy path of insurance.

The objections to compulsory health insurance are almost as compelling to this minority group as are those to voluntary insurance. Proof of the evils of the compulsory system is at hand in our own experience in this country with the only compulsory system with which we have yet had to deal, workmen's compensation insurance. Under workmen's compensation, groups are soliciting contracts, often through paid lay promoters; laymen are organizing clinics and hiring doctors to do the work; standards of practice are being lowered; able physicians outside the groups are being pushed to the wall; the patient

is forced by his employer to go to a certain clinic, and the physician is largely under the control of the insurance companies. These are not visionary fears of what may happen but a true picture of widespread evils attending insurance practice. No better example should be needed of what must happen to medical care if compulsory insurance is extended to families.

The total cost of medical care is usually increased when it is paid for through insurance, because the cost of operation of the insurance plan must be added to the cost of medical care and the number of persons sick and the number of days' sickness per capita always increases under any insurance system. The Majority Report registers approval of insurance but disapproves of insurances companies. The minority group agrees with the principle that, in any contract practice plan involving an insurance principle, this principle should be applied through a nonprofit organization. The minority group has not attempted to marshal all the facts or arguments that can be used against health insurance but has endeavored to show that there are great dangers and evils in insurance practice which must be set over against the advantages of distributing the costs of medical care by this method. The minority group believes that the majority report has minimized these dangers and evils.

The minority recommendations follow:

"I. The minority recommends that government competition in the practice of medicine be discontinued and that its activities be restricted (a) to the care of the indigent and of those patients with diseases which can be cared for only in governmental institutions; (b) to the promotion of public health; (c) to the support of the medical departments of the Army and Navy, Coast and Geodetic Survey, and other government services which cannot because of their nature or location be served by the general medical profession; and (d) to the care of veterans suffering from bona fide service-connected disabilities and diseases, except in the case of tuberculosis and nervous and mental diseases.

"II. The minority recommends that government care of the indigent be expanded with the ultimate object of relieving the medical profession of this burden.

"III. The minority joins with the Committee in recommending that the study, evaluation and coordination of medical service be considered important functions for every state and local community, that agencies be formed to exercise these functions, and that the coordination of rural with urban services receive special attention.

"IV. The minority recommends that united attempts be made to restore the general practitioner to the central place in medical practice.

"V. The minority recommends that the corporate practice of medicine, financed through intermediary agencies, be vigorously and persistently opposed as being economically wasteful, inimical to a continued and sustained high quality of medical care, or unfair exploitation of the medical profession.

"VI. The minority recommends that methods be given careful trial which can rightly be fitted into our present institutions and agencies without interfering with the fundamentals of medical practice.

"VII. The minority recommends the development by state or county medical societies of plans for medical care."

Safeguards in Distribution of Medical Costs

This minority group agrees that any plan for the distribution of medical costs must have the following safeguards:

1. It must be under the control of the medical profession (A "Grievance Board" to settle disputes, having lay representation, is permissible and desirable.)
2. It must guarantee not only nominal but actual free choice of physician.
3. It must include all, or a large majority of, the members of the county medical society.
4. The funds must be administered on a non-profit basis.
5. It should provide for direct payment by the patient of a certain minimum amount, the common fund providing only that portion beyond the patient's means.
6. It should make adequate provision for community care of the indigent.
7. It must be entirely separate from any plan providing for cash benefits.

County Society Plans For Medical Care

The minority group states its reasons for favoring thorough trial of the county society plan for furnishing complete medical care as follows:

1. It places responsibility for the medical care of the entire community on the organized physicians of the community.
2. It places medical care under the control of the organized profession instead of in the hands of lay corporations, insurance companies, and so on.
3. It places responsibility for the quality of service directly on the organized profession. It is in fact the only plan that guarantees quality of service and makes it the only basis of competition.
4. It removes the possibility of unethical competition because it includes all the physicians of the community and fixes a fee schedule.
5. Solicitation of patients, underbidding for contracts and other evils of the usual insurance plans are eliminted.
6. Freedom of choice of physician is assured and the essential personal relationship of physician and patient is thereby preserved.
7. It is the only plan that includes all classes, from the indigent to the wealthy.
8. It is adaptable to every locality, both urban and rural.
9. It provides for a minimum cost of administration by operating on a nonprofit basis.
10. It provides for payment, by every patient with income, of a certain minimum amount before the insurance is in operation. The minimum rises with the patient's income. This provision alone will operate to avoid many abuses in all other types of insurance practice.
11. It provides for means of certification of disability separate from the attending physician.
12. Cash benefits do not form a part of the plan.

SECOND MINORITY REPORT

The second minority report, which was signed by Herbert E. Phillips, D.D.S., and C. E. Rudolph, D.D.S., is in agreement with the first minority report in strongly emphasizing the necessity of maintaining professional standards and the position of the general practitioner. This group agrees with the first minority group that the majority is unduly critical of the professions. The second minority group joins with the first in declaring the medical center plan of the majority a utopian concept involving many problems too visionary or problematic to justify inclusion in an authoritative report of this kind.

The second minority group believe that the method of payment for medical service need not interfere with the highest professional standard or the close personal relations between practitioner and patient. Furthermore, this group is of the opinion that the introduction of compulsory health insurance under professional control would eliminate the objectionable features. It is in accord with the first minority group on the development by state or county medical society of plans for medical care.

The statements of Edgar Sydenstricker and Walton H. Hamilton are largely criticisms of the methods used by the Committee. They are of the opinion that the preliminary studies and the recommendation do not deal adequately with the fundamental economic questions which the Committee was formed primarily to study and consider.

UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

HYPERNEPHROMA OF KIDNEY AND CARCINOMA OF STOMACH OBSCURED BY METASTASES

Wilfred C. Curphey, M.D.
Department of Pathology

Case No. I.

This case is that of a white male, age 56 years, who was admitted to the hospital two weeks before death. For two months the patient had complained of pain in the epigastrium, attacks of which were quite severe. Six weeks ago the pain occurred on the right side just beneath the costal margin. At this time he began to notice weakness and loss of weight which amounted to twenty pounds in two months. Shortness of breath and cough soon developed and shortly before admission to the hospital he coughed up small amounts of bright red blood.

On examination he was found to be quite emaciated and noticeably dyspneic. All the mucous membranes were pale and dry. The neck revealed no palpable masses and the chest presented marked supraclavicular and intercostal retraction during inspiration. Expansion was limited, vocal fremitus increased over the base where dullness was noted. The apex impulse of the heart was 2 cm. to the left of the midclavicular line and the blood pressure was found at 140/50. The abdomen was rounded and uniformly tender. The edge of the liver could be felt 4 cm. below the costal margin and was distinctly firm and nodular. Rectal examination revealed a firm, nodular prostate and the presence of hemorrhoids.

The urine was negative. Rbc 3,480,000; Hb 59 per cent; Wbc 4,100 to 13,400. Blood chemistry: Urea nitrogen 19.63 mg. per 100 c.c. Creatinine 1.5 mg. per 100 c.c.

A clinical diagnosis of metastatic tumor of the liver and lungs was made, the primary source remaining unknown.

At autopsy both lungs were found to be studded with tumor nodules all about 1 to 2 cm. in diameter. These nodules on section were soft, well outlined and quite friable, presenting a yellowish-gray, spongy appearance.

The liver was distorted by larger and smaller tumor masses which almost completely replaced the liver tissue. Here, again, the tumor tissue was very soft, spongy and friable, some areas being quite vascular and hemorrhagic. Many of these masses were large, measuring 10 by 14 cm.

On superficial examination of the kidneys they did not appear abnormal or distorted but over the lower pole of the left kidney large tortuous vascular channels were apparent in the external capsule. On section a well outlined tumor mass was found. This tumor presented the same yellowish, spongy appearance and was very soft and friable in consistency. It did not distort the kidney pelvis and did not directly invade kidney tissue but seemed to have pushed aside the normal kidney structures. The remainder of the organs presented no changes.

The histological picture of this tumor confirms the gross impression that the primary tumor is that of the kidney, the growth in the liver and lungs being secondary. The growth in the kidney is found to be fairly well outlined from kidney tissue and presents two types of architecture, the one consisting of solid cords and masses of cells lying directly on the endothelium of vascular spaces. These cells possess fairly uniform nuclei with foamy appearing vacuolated cytoplasm. The other structure shows a marked tendency to acinar formation, some of which contain a colloid-like material.

The metastatic growths in the lungs and liver are not encapsulated but are well outlined. The cells occur in solid nests and cords, are irregularly polygonal in shape and show no tendency to acinar formation. They have a diffuse pink staining cytoplasm showing some vacuolization. The nuclei vary in size, shape and staining reaction, however atypical mitosis is uncommon.

Although the metastatic growth in the liver is much larger than that of the

kidney, the latter is considered primary. It is noted that the kidney lesion occurs at the lower pole but this by no means excludes hypernephroma or clear cell carcinoma of the kidney, for in more than 50 per cent of the cases in this department the tumors have been found at that site. In fact the tumors present in two other cases of this type which came to postmortem examination this year have occurred at the lower pole. Nevertheless, this tumor has a browner, more translucent, cellular appearance and does not invade the kidney tissue as is usually the case in hypernephromas extensive enough to cause metastasis. Histologically, the structure suggests an intermediate stage between clear cell carcinoma and hypernephroma. The architecture and cell structure illustrates on the one hand clear cell carcinoma with acinar formation, while on the other hand hypernephroma is suggested by the solid masses of vacuolated cells resting directly on vascular endothelium, both pictures occurring in the primary growth as well as all gradations between the two.

It is not unusual to see metastatic growth larger than the primary tumor, and it is rather unlikely that a primary liver tumor would metastasize to kidney and lung alone. Involvement of liver and lung is quite common in hypernephroma or clear cell carcinomas of the kidney for they almost invariably disseminate by way of the blood stream.

It is not only true that the first manifestation of such tumors of the kidneys are often noted in distant metastasis but similar phenomenon frequently occur in many other malignant growths.

Case No. II.

This patient, a white female, age 34 years, was operated upon ten months previous to the last admission to the hospital. At that time a diagnosis of carcinoma of the ovary was made. Since then she has had gradually increasing abdominal pain. Later vomiting developed with a gradual and progressive loss of weight associated with some abdominal distention. On admission the temperature was 100° which gradually increased to 106° at the time of death. The urinary findings were significant: albumin one plus, hyaline casts present and a specific gravity of 1.012. The clinical diagnosis was carcinoma metastasis of primary carcinoma of the ovary.

At autopsy the main gross findings consisted of a very definite ascites associated with metastatic carcinoma nodules over the peritoneal surfaces and in the omentum. These lesions were particularly numerous about the upper abdomen. The heart presented nothing abnormal. The lungs showed extensive broncho-pneumonia. The liver, spleen and pancreas were negative. The kidneys were very soft, flabby and pale yellow in color. On section the usual markings were obscured and the glomeruli were indistinct. One Fallopian tube and ovary was absent, these having been removed at the previous operation. The wall of the stomach was found to be very indurated and thickened in an area 10 cm. in diameter, in the region of the lesser curvature near the cardiac end. In the center of this area was a small ulceration of the mucosa, 1 cm. in diameter.

Histologically the gross impression of scirrhous carcinoma of the stomach with extensive metastasis to the ovaries and peritoneum was confirmed, there being atypical masses of epithelial-like cells invading the wall of the stomach, portions of the remaining ovary and many retroperitoneal lymph glands.

There are several points of interest in this case: first, the age of the patient (34 years) which is quite young for carcinoma of the stomach and second, this again is a case which presented the first symptoms of tumor growth at the site of a distant metastasis. It is very probable that the ovarian tumor removed ten months before death was secondary to the primary carcinoma of the stomach, which gave rise to no symptoms until shortly before death when vomiting occurred. It is not uncommon for carcinoma of the gastro-intestinal tract to metastasize to the ovaries (Krukenberg's tumors), however, this case did not present the usual histological findings of such a lesion; nor is it uncommon for primary tumors to occur in the ovary. All of which renders this case unusually

difficult from the clinical standpoint.

It should also be remembered that the location of a primary tumor of the stomach often determines the symptoms and ease of diagnosis. In this case the tumor situated on the lesser curvature near the cardia produced no obstructive symptoms and consequently was overlooked.

Rupert A. Willis recently found sixteen such cases of symptomatically latent primary tumors in a review of two hundred successive autopsies. In seven of these surgical or radiological therapeutic measures had been directed against secondary growths, believed clinically to be primary. One must bear in mind that even after the most careful purposive search neoplasms will escape clinical detection; but there are a few facts, if born in mind, will be of great assistance.

1. Primary carcinoma of the liver is a very precarious diagnosis.

2. A diagnosis of primary bone tumors should not be made until prostate, stomach, breast, thyroid and kidney tumors are ruled out.

3. Obscure malignant masses of the neck should always be regarded as metastatic and a search of all cranio-cervical epithelial surfaces should be repeatedly prosecuted.

4. Malignant tumors of both ovaries are not infrequently secondary growths, usually from the gastro-intestinal tract.

———R———

"Nursing is infinitely more than medicine's left-overs and the following out of orders for treatment," Mary M. Roberts, R.N., editor of the *American Journal of Nursing,* told the delegates to the annual convention of the American College of Surgeons in St. Louis, October 17. "Under medical direction, nursing is the responsibility for the environment of the patient, for creating about him a pool of peace in which the medical treatment can best function, as well as for the manual arts of nursing."

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of
The Kansas Tuberculosis and Health Association

Pulmonary tuberculosis rightfully claims major attention at a sanatorium since it constitutes 90 per cent of the cases of the disease in human beings. All organs of the body are susceptible, however, and among them the bones and joints. While it is customary to treat such cases at orthopedic hospitals, every sanatorium has their care as at least a minor problem. Dr. Hyde recounts his experience at Springfield Lake Sanatorium where in addition to a large population of pulmonary cases he has had wide experience with the management of cases of bone tuberculosis as well.

Tuberculosis of the Bones and Joints in Children

OCCURRENCE

The belief that the occurrence of bone and joint tuberculosis has dropped to a negligible point is untrue, therefore misleading and dangerous. At Springfield Lake during the past ten years 4 per cent of adult patients and 5 per cent of the 1,220 children admitted showed tuberculosis of bone and joints. The increase in tuberculin testing of cattle together with higher standards of living have not sufficed to eliminate the disease.

The death rate has dropped, to be sure, concomitantly with that from pulmonary tuberculosis. This is attributable, in large part perhaps, to earlier diagnosis and better treatment. City clinics, however, continue to carry the same or even a greater number of cases than formerly. These show the disease predominantly prevalent in children, 87 per cent in 5,461 cases at the Hospital for Ruptured and Crippled in New York

ETIOLOGY

The disease is metastatic, is frequently blood borne and is often associated with other manifest tuberculous lesions in various parts of the body. Dr. Hyde found an average of 2.6 such lesions per patient. The treatment of these cases should, therefore, be recognized as a medical as well as an orthopedic problem.

Localization of the disease in bone is favored by injury and by disturbances in nutrition. The injury itself in many cases may be slight, but 27 per cent of the cases gave a history of recent trauma, and in a number bacterial proof of disease was made within four or five weeks of such history. The vascular metaphysical zone of the growing bone of children is a frequent site of this localization. In the group of cases discussed about half were children under treatment for tuberculous lymph nodes and the other half adults under treatment for pleurisy or pulmonary tuberculosis. Pott's disease is the commonest form of the infection in children under six, with the hip and knee showing greater frequency in older childhood, while tuberculosis of the upper extremity occurs more often in adults.

DIAGNOSIS

A successful outcome depends as in pulmonary tuberculosis on early diagnosis. This is difficult. The tuberculin test is of value only when negative. The *x*-ray does not reveal early lesions especially in the partially calcified bones of young children. The subcutaneous tuberculin test to stir up local reaction is dangerous and not to be approved. Biopsy is advocated by Hibbs and others, but this procedure may be misleading since it requires the highest diagnostic judgment and should only be used when surgeons and pathologists of long training and experience can cooperate in its performance.

Diagnosis must, therefore, depend largely on a history of previous contact or evidence of existing infection elsewhere in the body together with careful physical examination. Fluctuating swellings should not be opened though they may be aspirated with a fine needle for diagnostic purposes. In speaking of tuberculous abscess Calot says, "In closed tuberculosis cure is certain. To open it or allow it to open is to open a door by which death too often will enter." By means of smears, implantation on various media and guinea pig inoculation, tubercle bacilli were found in aspirated material from 27 per cent of the present series.

TREATMENT

Duration of treatment averaged 5.2 years. This fact emphasizes the essential importance of combined medical and orthopedic care for cases of bone and joint tuberculosis.

Conservative treatment by means of rest, diet, fresh air and sunshine is the method of choice for children. Surgery may be needed even in the younger cases but is a more important ally in handling the disease in older children and adults.

Immobilizing the affected joint in the position of election is the first and most important step. In advance cases with contracture deformities splinting may be done without immediate correction, relying on later surgical treatment when the disease has reached a period of quiescence.

Heliotherapy is recognized as a treatment of greatest value. Orthopedic applicances should be arranged so as to permit sun treatment when possible. Adequate doses of unfiltered sunlight furnish the ideal method of light therapy and have demonstrated their superiority over artificial substitutes. Only when sunlight is not available should the latter be employed. The effect of solar light is especially marked on tuberculous abscesses, exudates, sinuses and fistulae. Its judicious use in such cases often yields gratifying results; unwisely applied it may aggravate existing conditions. Especially in hot weather the penetrating red rays of the sun may be a source of danger. Rollier encourages his discharged convalescents to continue a life of heliotherapy.

When treatment is instituted early the disease may be arrested with, at times, complete restoration of joint function. In more advanced cases with extensive destruction of tissue rest will give subsidence of symptoms but with deformity or limited motion. In the latter case recrudescence is common. In both instances resort to surgical interference is frequently indicated.

SURGICAL TREATMENT

Forcible correction of deformities should never be attempted. Gradual reduction under splinting and traction is at times successful. Operation should be

undertaken only after all acute symptoms have subsided and when the *x*-ray indicates that the disease is inactive. Surgery does not cure tuberculosis of joints. Its dual role is in the correction of deformities and in the immobilization of joints by creating ankylosis in the position of election. When possible it should be deferred until the second decade of life or until bony development is nearly complete to avoid interruption of growth so far as possible.

If after healing some motion remains in a weight-bearing joint, ankylosis is often desirable to avoid the danger of recrudescence of the disease. Especially is this true in the spinal cases, and ready recourse to the Hibbs or bone graft method of operation is desirable. Stabilizing operations on the hip joint are also frequently indicated, and the knee and ankle require similar treatment, perhaps with somewhat less regularity. Complete immobilization must be secured even though a second operation is required to accomplish this result. While Rollier advocates great operative conservatism and prefers to advise sheltered employment, it is generally felt that an ankylosed joint gives better assurance against relapse and is economically wiser in that it allows a safer return to ordinary conditions of life and employment.

CONVALESCENT CARE

Convalescence is prolonged, often extending over a number of years. For this reason it is well to stress once more the importance of combined medical and orthopedic care. Supervision of splints, massage, exercise and gradual weight bearing require expert orthopedic guidance.

Medical care includes the prolonged and intensive use of rest, diet, fresh air and light therapy indicated in all cases of tuberculosis, whatever organ of the body may be involved.

Tuberculosis of the Bones and Joints in Children, Clarence L. Hyde, Am. Rev. of Tuberc., November 1932.

LETTERS FROM A KANSAS DOCTOR'S SON TO HIS DAD

Dear Dad:

Your supposition is correct. I am in school and I am launched. This Sunday morning as I recall the usual conventionalities attending a "launching" I indeed feel that the customary bottle of champagne has been shattered across my bow, and, although I am taking on more water than I had supposed would be necessary to accommodate my displacement, I nevertheless feel that I have participated in such a ceremony. No doubt even your self-estimated senility will not obliterate your memory of the advent of school, the meeting with old friends—and the inevitable after-math.

I am sorry you have determined not to see the Notre Dame game. I appreciate your attitude in stating the $6.60 admission price would be better expended for the benefit of the poor. However, I feel that the $6.60 might just as well be spent for football by most people for the majority of those in possession of the price are more inclined to stuff it deeper into their socks while the hungry take a hitch in their belts. Of course I realize such a remark does not apply to you or to other members of your profession. The truth is that they just don't have the $6.60. If they did perhaps they would pay their office rent or at least the telephone bill—but more likely they would purchase a few shares of preferred stock in Iceland Oil. As for the farmer and his twenty bushels of wheat, I venture to say that if wheat was legal tender as admission to football games, everyone would be employed building stadii in Kansas.

Speaking of the Spanish-American skirmish. It seems to me that the paying of pensions to 235,000 out of a possible 300,000 veterans represent a fair morbidity, which, of course, is due to the persistent high per capita density of the U. S. Senate. The mortality which was not so imposing may be attributed to yellow fever or tropical itch.

Anyway I think you over-rated the conflict. Rather than requiring a dozen Irish cops, I think perhaps about half-a-

dozen well-ordered theater ushers might have accomplished the trick. But then I feel the nation is better off to be paying 235,000 men who were picked before the slogan "The Patron is Always Right" became an American institution, than they would be if they were paying men's pensions to modern "Crooners." But then if the crooners would just retire I expect we'd be only too glad to pension them, too. The American problem seems not "To Pension or not to Pension," but rather "What Price Pension?" Well, seemingly the depression has not affected our Pension Price.

Well, as for me I think I'll see a football game—if I don't lose the price in a poker game. I imagine you'll react similarly—and not see the game.

School is going fine, but of course books and instruments are expensive—but then, you know that story verbatim.

Love,

Your Son.

LETTERS FROM A KANSAS DOCTOR TO HIS SON

John A. Dillon, M.D.
Larned, Kansas

My dear Boy:

Election is over and I am glad to know that you went to the polls and voted. Of course I do not know for whom you cast your ballot on the national ticket but personally I am satisfied, although I am rather befogged as to just what the program is for the future. At any rate the machinery has all been turned over to the Democrats and it is up to them. As I understand it national prosperity is assured if we can all consume our quota of beer which I believe is about five gallons a day per capita. I am rather out of practice along this line but am willing to start in gradually and do my loyal utmost.

Our state was in a precarious situation and probably if the election had been held one month earlier there would have been a predominating odor of goat. As it is our soft western zephyrs are still pungent at this writing. If you noticed the returns from the counties out this way you will realize the vote was about the same as two years ago but "Praise the Lord" further east where bath tubs and tooth brushes are more in evidence there was a saving element that came to the rescue. Once again soap has prevailed. It has been difficult for me to reason fairly in this campaign but I find that as age creeps along I am more tolerant in my viewpoint. I only pity the misguided people who in a time of desperate financial crisis are led away by the empty nothingness dinned into their ears day and night from a radio station. Even now they are grinning sheepishly and hoping to get back into the good graces of their neighbors. They may succeed in doing this but in many localities they will be kept on probation for a long time before being taken into full fellowship as clear thinking individuals. Just at present their I. Q. is under a cloud. You young fellows who are spending long years to fit yourselves for practice in the medical profession should feel a special elation over the result of this election.

The football season is over down there and now basketball will demand its place in the sun. They tell me it is a good game and I have dutifully sat through a few exhibitions. I could never rise to any great height of enthusiasm over the game. I have never felt like addressing an insulting remark to a supporter of the other team who sits next to me. I would even chat in a friendly manner. Now in baseball and football I do not feel that way. I have the urge to allow the cave man to assert himself and if the object of my wrath be a rather small man I am apt to become quite abusive. But in basketball it is different. I can discuss politics, weather, babies, duck shooting or can take a cigar from his vest pocket in a cheery, jocular manner. So if you are planning to have mother and myself come down to a basketball game I would suggest that it would suit me just as well to watch a checker game over at the YMCA. And in saying this I may be due for some scathing remarks from you and your brother. Now your mother would be too unselfish to speak her mind in this way and probably would

enjoy the game especially if you boys were sitting beside her. She wouldn't know the difference between a guard and a basket but she would be happy just the same. Let this soak in a little. Try to keep in mind that it takes no expensive game to entertain mothers. She will be more interested in the new shirts she has selected for you than she will be in your star athlete who can jump fifteen feet backward up hill and against a hard wind.

I was interested to learn you boys had managed to get over to the M. U. game at Columbia. Somehow I felt you could manage it and I was certain of it when the ten-dollar check came in duly signed and initialed. Whatever you do don't forget to put the initials under my name when signing the check otherwise I might feel I was spending too much money on myself. Anyway it was a good game and worth the money. I heard it over the radio and felt a little guilty that I had suggested it might be good economy for you boys to stay at Lawrence.

This guilty feeling has entirely left me. I was pleased that K. U. finished the season so well. We who are patrons of the school can once more look the world in the face. There was a time earlier in the season when we felt very much discouraged and wondered if the school could endure under such adverse football conditions. Wiser heads took over the affairs and husky giants were prevailed upon to get their minds off their books and get down to business. The result is now history and makes satisfactory reading.

The Christmas holidays will soon be here and we are looking forward with pleasure to have you boys home. We expect to see you occasionally while you are here. Our contract bridge does not improve much and you will note that Culbertson and myself are still at variance on fundamental plays. Sometimes I feel he is the more reliable in his bidding. The sight of four aces in my hand is quite apt to upset my usual cool demeanor and my poker instinct is prone to take charge of the situation much to the disgust of the conservative partner. Your mother still insists I am not happy unless I play all the hands. I always come back with a snappy "Is that so," an argument if the proper inflection is used no one can get around.

Love,

Dad.

P. S. If you are planning on neckties for my Christmas, I will be satisfied if you bring back the ones you bought me last year.

THE PHYSICIAN'S LIBRARY

FUNCTIONAL DISTURBANCES OF THE HEART, by Harlow Brooks, M.D., attending physician of Fourth Medical Service, Bellevue Hospital, New York. 288 pages. J. B. Lippincott Company, Philadelphia and London. Price $5.00.

The author has cleverly outlined for the assistance of other practitioners, the fruits of his clinical study and has cited for their benefit some of the methods which have proven themselves useful in his experience both in the recognition and treatment of heart disease. The book covers those functional diseases of the heart which the author believes the average practitioner is liable to come in contact. Cardiac neurosis is treated in a very comprehensive manner. Paroxysmal tachycardia is classified under the functional disturbances of the heart because of its usual association with the mentally and nervously alert and intelligent, although the author does not claim to have full justification for such a classification. The last chapter is on Neurocirculatory Asthenia and is a classic in itself.—J.G.S.

THE MEDICAL CLINICS OF NORTH AMERICA: (Issued serially, one number every other month.) Volume 16, No. 2. (Chicago Number—September, 1932.) Octavo of 272 pages with 47 illustrations. Per Clinic year July 1932 to May 1933. Paper, $12.00; Cloth, $16.00 net. Philadelphia and London. W. B. Saunders Company, 1932.

Congenital Heart Disease: Dr. Fenn discusses congenital heart lesions, their probable cause, symptoms, and the patient's life expectancy. He divides them into classes, the cyanotic, and the noncyanotic group, and shows why the noncyanotic group offer a better prospect of long life with the least discomfort. He presents three cases, two of which are

fairly common and give a good expectancy with very little discomfort. The first case is one with a patent ductus arteriosis, the second one an uncomplicated ventricular septal defect. The third case has a very severe cardiac defect. The diagnosis is not certain, but appears to be a heart with two auricles and but one ventricle, and complicating this, a transposition of the great vessels. Dr. Johnson presents a case of patent ductus arteriosis with syphilitic aortic regurgitation; a case of pulmonary stenosis with a compensatory ductus arteriosis, and third a probable uncomplicated case of intraventricular septal defect. In conclusion they give a summing up of the management of such cases.

Progressive Relaxation in the Management of Hypertension: Dr. Eugene F. Traut presents a doctor's wife with an admission blood pressure of 220/118. She was given numerous drugs to reduce her blood pressure but none gave any permanent results. Finally after two years of medication and no results Dr. Edmund Jacobson was consulted and he classed her as one belonging to that neuro-muscular hypertension group, and advised progressive relaxation as a therapeutic measure. After two weeks the patient began reacting favorably to this treatment and today, many months later, carries a blood pressure of 140/70 Dr. Jacobson's system is discussed and in short consists in teaching these patients to substitute not doing for their usual tensions.

Pulmonary Embolism Complication and Simulating Coronary Thrombosis: Drs. Hamburger and Saphir show the diagnosis of coronary thrombosis is often made when in fact autopsy shows a pulmonary embolism and infarction with little or no coronary disease present. They present five case histories in which the diagnosis was made of coronary thrombosis with no mention of pulmonary complications, and then the autopsy findings and reports to substantiate their own contentions of pulmonary infarction and embolism. Each case is quite fully discussed, they show just when in their opinion the pulmonary complication occurred in relation to the patient's history. Their conclusions are that in cases of sudden severe dyspnea, unexpected death following some slight exertion, acute severe right sided chest pain, or in unexplained sudden death, pulmonary embolism should be considered either alone or in association with coronary thrombosis.

Pericarditis With Effusion: Drs. Williamson and Birch discuss the case of a young girl 14 years old from the time she was first seen with symptoms of a polyarticular rheumatism, through a pancarditis and an acute hemorrhagic nephritis to her death four weeks later. They give autopsy findings to check up the finding all the way through. This clinic is very very instructive as it shows the difficulty encountered in making an early diagnosis of pericarditis with effusion where there is no friction rub to aid. They lay stress on the pushing down of the liver dullness and of dullness over the second intercostal space along the left edge of the sternum which disappears on putting the patient in a sitting position. Dr. Williamson discusses in detail whether the patient should be punctured and shows just in what the danger lies in an effusion. He uses the arterial blood pressure, taken often each day, as a medium of telling when the fluid should be drained off. He also lays much stress on where the puncture should be made, and just how much fluid should be taken off.

This is a very important clinic and should be read by anyone practicing general medicine and especially by the internist, as it is well written, quite easily understood, and well worth anyone's time.—C.K.S.

ORTHOPEDICS IN CHILDHOOD: William L. Sneed, M.D., attending surgeon, Hospital for the Relief of the Ruptured and Crippled; Fifth Avenue Hospital; consulting surgeon, French Hospital; Nassau County and North Shore Community Hospitals; instructor, applied anatomy Cornell Medical College. 145 illustrations. J. B. Lippincott Company, Philadelphia and London. Price $5.00.

In this work the author has presented the essentials of orthopedic practice so they may be understood and applied by the general practitioner in the proper handling of the orthopedic problems in the care of children. Simple methods of treatment are stressed, that cooperation

(Continued on Page 466)

THE JOURNAL
of the
Kansas Medical Society

EARLE G. BROWN, M.D. - - - - Editor

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EDITORIAL

PREMEDICAL EDUCATIONAL REQUIREMENTS

For the convenience of admission officers and also prospective medical students, the Council on Medical Education and Hospitals, since 1915, has published a list of "Approved Colleges of Arts and Sciences and Junior Colleges." Such a list for the present school year appears in the 1932 Educational Number of the Journal of the American Medical Association.

Prospective medical students, preferably should enroll in those colleges and universities which are included in the approved list. Otherwise, it may be impossible to enroll in the medical school of their choice. In selecting students for enrollment in medical colleges, preference naturally should be given to those who have had their training in colleges and universities known to conform to accepted standards.

Approved colleges in Kansas included: Baker University, Baldwin; Bethany College, Lindsborg; College of Emporia, Emporia; Fort Hays Kansas State College, Hays; Friends University, Wichita; Kansas State College, Manhattan; Kansas State Teachers College, Emporia; Kansas State Teachers College, Pittsburg; Marymount College, Salina; Municipal University of Wichita, Wichita; Ottawa University, Ottawa; Southwestern College, Winfield; St. Benedict's College, Atchison; Sterling College, Sterling; The Saint Mary College,* Leavenworth; University of Kansas, Lawrence, and Washburn College, Topeka.

The following memoranda were included:

Junior Colleges—Credentials of premedical work taken in junior colleges (indicated in the list by an asterisk) must show the completion of at least sixty semester hours in subjects of college grade, including the required credits in physics, chemistry, biology and English. Students presenting such credentials must have completed fifteen units of accredited high school work before taking college courses.

Normal Schools—Students presenting credentials from normal schools, which are organized primarily for the training of teachers, may be accepted if such credentials have the certification of the registrar of the state university that the courses completed by the student are the equivalent of the courses accepted from accredited colleges and universities.

THE COMMITTEE ON THE COSTS OF MEDICAL CARE

The Committee on the Costs of Medical Care for the past five years has been engaged in its study under the chair-

*Junior College.

manship of Ray Lyman Wilbur, M.D. The report was made public on November 29, and an abstract of the final report which appeared in the Journal of the American Medical Association under date of December 3, will be found on pages 446-450 of this publication. The Journal of the American Medical Association also comments editorially:

". . . . . The recommendations of the majority of the committee will not come as a surprise to the thousands of physicians who have followed closely the trend of the studies as indicated by the reports published from time to time since 1927. The director of the work, Harry H. Moore, Ph.D., published a book called "American Medicine and the People's Health," which revealed his personal bias for insurance schemes and indeed, for governmental practice. So definite was the trend of the committee's studies in this direction that one must view the expenditure of almost a million dollars by the committee and its final report with mingled amusement and regret. A colored boy spent a dollar taking twenty rides on the merry-go-round. When he got off, his old mammy said: "Boy, you spent yo' money but where you been?"

"Knowing the composition of the Committee on the Costs of Medical Care, physicians will not be surprised that a significent minority should have dissented from the majority report. True, the majority included seventeen men with the degree M.D., of whom seven are listed as in private practice and the others as public health officials or representatives of institutions or special interests. The minority report, however, is supported by Dr. Olin West, the secretary of the American Medical Association; George E. Follansbee, the chairman of the Judicial Council; M. L. Harris, a former President and for many years a member of the Judicial Council, and also Drs. A. C. Christie, Kirby S. Howlett, A. C. Morgan, Robert Wilson and N. B. Van Etten. Moreover, two representatives of American dentistry, Drs. Herbert E. Phillips and C. E. Rudolph, dissent in a separate minority report.

"Briefly, the majority report recommends that medical practice be rendered largely by organized groups associated with hospitals, and it expresses the hope that these groups will maintain the personal relationship between patient and physician so essential to good medical care. The rendering of all medical care by groups or guilds or medical soviets has been one of the pet schemes of E. A. Filene, who probably was chiefly responsible for establishing the Committee on the Costs of Medical Care and in developing funds for its promotion. Such practice has, moreover, on various occasions had the endorsement of representatives of some of the eight foundations that contributed financial support. In contrast with this recommendation of the majority report, the minority bluntly recommends that "united attempts be made to restore the general practitioner to the central place in medical practice." This it does with good reason, for experience has shown that more than 80 per cent of all the ailments for which people seek medical aid can be treated most cheaply and most satisfactorily by a family physician with what he can carry in a handbag. All of the expensive studies and investigations carried out by the Committee on the Costs of Medical Care have not disproved this fact. In elaborating its recommendations, the majority report also endorsed industrial practice involving those schemes in which corporations care for employees and their families, as well as expansion of student health services at universities, so that these may serve faculty and townspeople as well as students. Most of the university services studied by the committee are in large cities where such an expansion is manifestly impossible. The Journal has pointed out repeatedly that such practices will mean the destruction of private practice; that they represent exploitation of physicians for the gain of business; that they put medical schools into unfair competition with their own graduates, and that they are, in a word, "unethical." Knowing the composition of the Committee on the Costs of Medical Care, it is interesting to find the pet plans of many of its members

so sweetly elaborated in the majority report.

"Both the majority report and the chief minority report are concerned with public health services. The majority report recommends extension of all basic public health services to make them available to more and more people. The minority report views with alarm further invasion of governmental agencies into the practice of medicine. And what a curse such invasion has been! Who today fails to realize the menace inherent in the expansion of the Veterans' Bureau? Even most radical health officials, moreover are finding that their best policy will be to give medical practice back to the medical profession.

"The minority report does recommend that the care of the indigent by the government be expanded with the ultimate object of relieving the medical profession of this burden. Already some county medical societies have worked out cooperative plans with their communities which seem to work practically in this direction. To what extent such plans may lead toward state medicine is, of course, problematic. Certainly physicians who are paid for the care of the indigent will be able to lessen fees for those able to pay only part of a usual medical fee.

"The real question for consideration is the problem of providing funds for the care of the 10 to 20 per cent of serious medical and surgical conditions for which wage earners usually find themselves poorly, if at all, prepared. The majority report would place medical costs on a group payment basis through insurance, taxation or both but without abolishing practice on an individual fee basis for those who prefer it. Profiting by the experience of foreign countries, it is recommended that health insurance be distinctly separated from unemployment insurance or insurance against loss of wages. On the contrary, the minority report says flatly:

It seems clear that recommendations for further trial and expansion of voluntary insurance schemes in the United States are entirely inconsistent with the Committee's own findings. To recommend that our own country again experiment with discredited methods of voluntary insurance is simply to ignore all that has been learned by costly experience in many other countries as well as our own.

Voluntary insurance schemes are now in operation in many parts of the United States and are increasing in number and in size. In many places these schemes are being operated in accordance with the plan recommended by the majority of the Committee, that is, by making contracts with organized groups of the medical profession. That they are giving rise to all the evils inherent in contract practice is well known. Wherever they are established there is solicitation of patients, destructive competition among professional groups, inferior medical service, loss of personal relationship of patient and physician, and demoralization of the profession. It is clear that all such schemes are contrary to sound public policy and that the shortest road to the commercialization of the practice of medicine is through the supposedly rosy path of insurance.

"This need not be taken to mean that the minority report is opposed to any individual carrying insurance against the occurrence of a major illness or operation so that he might receive at such time funds sufficient to pay the hospital and the physician he might select. No doubt, insurance companies could sell such policies most reasonably if a sufficient number of persons could be induced to insure themselves and their families in this manner. Such a procedure is foresighted, American, economical. It preserves personal relationship and the free choice of physician and hospital; moreover, it makes the patient responsible to the physician and places squarely on the physician the responsibility for the care of the patient.

"Both the majority and minority reports recommend continued study of medical economic problems by every type of agency. Certainly the studies already published by the committee indicate the value of such studies and the necessity for having facts on which to base conclusions and recommendations. This would seem to be particularly true in relationship to such studies as are available of various industrial medical services and of corporate practice. The minority report is particularly resentful that the majority made recommendations on the basis of inadequate studies in this field. Thus it says:

It is the belief of the minority group that the majority report has presented this question in a distorted manner. The evils of contract practice are widespread and pernicious. The studies published by the Committee show only the favorable aspects. They were selected because they were considered the most favorable examples of this type of practice in the United States. For each of these plans a score of the opposite kind can be found. The evils are inherent in the system although they may be minimized

when a high grade personnel is found either among employees or medical group, or both.

"Specifically, the recommendation of the minority group reads:

The minority recommends that the corporate practice of medicine, financed through intermediary agencies, be vigorously and persistently opposed as being economically wasteful, inimical to a continued and sustained quality of medical care, or unfair exploitation of the medical profession.

"These two reports represent, therefore, the difference between incitement to revolution and a desire for gradual evolution based on analysis and study. The majority report urges reorganization of medical practice, the development of centers, insurance; if necessary taxation to provide funds; expansion of public health services. The minority is willing to test any plan that may be offered if it conforms to the medical conception of what is known to be good medical practice. Indeed, the minority recommends, "that methods be given careful trial which can rightly be fitted into our present institutions and agencies without interfering with the fundamentals of medical practice." One seems to hear that famous medical aphorism that has come down through the centuries: "Prove all things; hold fast to that which is good."

"In addition to the majority report and the first minority report, several others by smaller groups appear in the final report. The dental members, as previously mentioned, oppose the plan for centers as utopian. They favor some form of compulsory health insurance under professional control. Dr. Edgar Sydenstricker would not sign because he felt that the recommendations did not deal with the fundamental economic problem the Committee was formed to consider. If by this he meant that the problems of the wage earner and of the poor include the provision of food, fuel, housing, clothing and transportation as well as medical service, he will find most of the world in agreement with him.

"Early in the majority report it is emphasized that low incomes are largely responsible for the problems which the committee was created to investigate, but that subject is apparently never mentioned again in the majority report.

"In September the Board of Trustees and the Judicial Council of the American Medical Association met with a group of physicians representing various portions of the country, to hear an analysis of economic problems. Last week the Board of Trustees met with the secretaries of state medical societies and with the editors of the state medical journals. At this meeting, Dr. William Allen Pusey, speaking for a committee appointed at the previous session, presented an analysis of the principles on which medicine must stand, its responsibilities to the public, and the return it has a right to expect from that public. In the twelve points under which he assembled his conclusions, several are especially significant in relation to the final report of the Committee on the Cost of Medical Care. They are briefly:

The good of society must be the sole aim of its public policies and the good of the patient the first consideration in the relations between physicians and patients.

Experience has shown that the vast majority of disease conditions afflicting man can be most satisfactorily and economically diagnosed and treated by a competent individual general practitioner.

Medicine's chief concern must be for the individual physician; the service rendered by individual physician's in the aggregate constitutes the great bulk of medical service. The quality of service which is given depends on the competency of the individual physicians who give it.

The medical profession asks a career of independence under conditions of free and dignified competition.

In its ideals of independence, medicine has a right to control its own affairs. Its history of capacity to do so and altruism justifies this claim.

"The Journal, under the auspices of the Board of Trustees, representative of organized medicine in this country, urges physicians to familiarize themselves with the abstract of the final report of the Committee on the Costs of Medical Care which appears in this issue, if not with the complete report. It urges, after careful consideration, support of the minority report signed by the representatives of the American Medical Association in the committee. The alinement is clear—on the one side the forces representing the great foundations, public health officialdom, social theory—even socialism and communism—inciting to revolution; on the other side the organized medical profession of this country urging an orderly evolution guided by controlled ex-

perimentation which will observe the principles that have been found through the centuries to be necessary to the sound practice of medicine. On the one side are alined the forces that would practice one kind of medicine for the rich, another for the wage earner and the indigent; on the other side are the physicians who know that, from the point of view of the physician who studies bodies and minds, all are human beings. The physicians of this country must not be misled by utopian fantasies of a form of medical practice which would equalize all physicians by placing them in groups under one administration. The public will find to its cost, as it has elsewhere, that such schemes do not answer that hidden desire in each human breast for human kindliness, human forbearance and human understanding. It is better for the American people that most of their illnesses be treated by their own doctors rather than by industries, corporations or clinics. The American Medical Association, through its Board of Trustees, supports the minority report. No doubt the House of Delegates, at its session in Milwaukee next June, will urge every physician affiliated with the Association to do likewise."

In accordance with the suggestion of the American Medical Association, county medical societies at their next regular meeting should give consideration to the report of the Committee on the Costs of Medical Care.

EDITORIAL COMMENT

Statistics indicate a continued increase in the mortality from diabetes. The rate at present is considerably in excess of that prior to the discovery of insulin.

Monroe Crawford, M.D., reports a series of cases of tularemia resulting from the ingestion of insufficiently cooked rabbit meat. (Jour. A.M.A., Oct. 29, 1932. p. 1497-98.)

Three physicians, all members of the Kansas Medical Society, were elected to the 1933 legislature: Doctors E. L. Morgan of Phillipsburg, and W. M. Blount of Kansas City, to the House of Representatives, and Dr. J. B. Carter of Wilson, to the Senate.

The Nobel Prize in Medicine for 1932 has been awarded to two British investigators, Sir Charles Scott Sherrington, professor of physiology at Oxford University, and Dr. Edgar Douglas Adrian, professor of physiology at Cambridge University.

The chiropractic practice act submitted to the voters of Arizona, was, according to the latest available report, defeated by a vote of 21,000 to 11,000; the act in Massachusetts was defeated by 140,000 votes. (Jour. A.M.A., November 19, 1932.)

At its meeting on October 8, the Board of Directors of the American Society for the Control of Cancer voted the *Bulletin* of the society be made its official organ and the present relationship between the society and the *American Journal of Cancer* be discontinued.

Subscribers to the JOURNAL are requested to notify the office if a change in address is made. If the postal authorities are unable to deliver the JOURNAL to the old address a charge of two cents is made for notifying this office the subscriber has moved. Prompt notification, therefore, will reduce the expense for postage.

"Reason and authority is quite convincing that a physician who falsely represents to his patient that he has syphilis for the purpose of obtaining a fee for the treatment of such disease is guilty of gross immorality." This decision was made by the supreme court in a case appealed from the Shawnee County district court involving the action of the Board of Medical Registration and Examination in revoking the license of Dr. E. L. W. Brown, formerly of El Dorado.

THE PRESIDENT'S MESSAGE

To the Members of the Kansas Medical Society:

The office of the president, at least during this administration, has been bombarded with the direction of attention to errors of members. This no doubt shows a healthy condition of our society. However, more is really expected of the president than is possible for him to accomplish in this relation, although he is the only one to whom members can make their appeal.

During our administration illustrative demonstrations from the daily press were referred to this office, in which, members of high standing as well as those of a mediocre place have inflated their values to a marked degree.

This is quite unfortunate. I consider the state medical society no longer acts as a police force. Instead, it represents an idealism for the best in our profession. None of us are without fault but some display methods that are so manifestly antagonistic to our ideals that they become extremely distasteful as well as of great harm.

Our membership should awaken themselves to those exasperating methods which tend to embitter the greater number. Then we should picture within our own minds the ideals for which our society stands. Individuals may fail but those ideals will go on forever. Perhaps it is best at times to overlook the frailties of humanity, for after all the medical profession is made up of mere men.

Then let us look upon the medical society as one that represents the expression of our ideals.

Religion can do no more.

P. S. Mitchell

Iola, Kansas
October 14, 1932.

President, Kansas Medical Society

THE LABORATORY

Edited by

J. L. LATTIMORE, M.D., Topeka

Vaccines

It has been suggested that a review of the subject of vaccines would be in order for this page, at this time.

A vaccine is a preparation of bacteria, which upon introduction into the body produces active immunity by the formation of antibodies. To avoid confusion, a serum is a solution, usually animal blood serum which already contains the antibodies. Vaccine and serum are used by many physicians to mean the same thing, in fact, other than the hypodermic injection and that both are produced by bacteria, there is little connection.

For some thirty years, Ehrlich's theory of origin and specific antibodies in the production of immunity, has been accepted. In short, the theory assumed the hypothesis of specific receptor of cell nutrition in food and applied to bacterial immunity, that each cell had specific chemical nature of highly specialized groups of side chains, capable of specific receptors. In accordance with this theory, Ehrlich assumed that any specific antibody could be made to appear or increase as a result of active immunization, in sufficient numbers to be of therapeutic value.

Practically, there are certain diseases in which this active immunity may be developed and in many others, little or no effect can be obtained from the active use of vaccines. There can be no question of the value of certain vaccines, yet the profession have gone to the extreme on the subject, in many cases are recommending vaccines as cures or preventives with little or no scientific foundation.

One school of thought holds to the theory of specificity of vaccines, the use of a vaccine composed of the specific infecting organism or organisms. The other school of thought believe that specificity is a secondary factor and that the introduction of any vaccine will produce a certain amount of immunity. This group believe that this vaccine acts either as a foreign protein or that through some chemical change stimulates the production of receptors, that are not specific, but they in turn generate a receptor that does have a specific immunity.

In practice, the use of vaccines will no doubt bring grief to the physician, unless he qualifies his promises of relief either in the form of immunity or a cure. Experience has taught us there are certain type of cases that will, as a rule, give good results from the use of vaccines. In my experience an autogenous vaccine composed of staphylococci, from a skin lesion, such as a "boil," will give good results. Acne vaccines, although considerably more difficult to make, give fairly good results. Cold vaccines have little effect as a cure, but do give about a 50 per cent immunity. I have seen little good from vaccines made from stools, except in certain, rare select cases. Although gonorrheal vaccines are used extensively and I think they should be continued, they do not give as good results as we would desire.

The administration of vaccines offers considerable question to most of us. Some failures are a result of too small a dose. Following directions in the stock package, we do not take into consideration the individual resistance, either in the amount of the vaccine, or the repeated doses. Reactions, both local and constitutional, should be the main guide to the administration.

The preparation of a vaccine is a rather simple process except with certain bacteria, where trouble is encountered in obtaining a satisfactory growth. Some laboratories use the "kill with heat" method, where the bacteria are heated to 60 degrees centigrade for 1 hour, while in other laboratories chemical antiseptics are used, such as phenol or tri-cresol. The standardization of the dosage can be accomplished by either counting the bacteria or adopting the density of the solution in color, as a guide. It would follow that the stronger the vaccine, the less dose would be required, while the weaker the vaccine, the greater the dosage.

Autogenous vaccines as a rule if made from new, virulent strains, give better results than a stock. An autogenous vaccine covers the theory of specificity, the theory of a foreign protein and the theory of generating the regenerated receptors.

No doubt, vaccine therapy has a very definite place in medicine, mainly as a preventive, but a warning should be sounded against the unscientific, unbiased use of vaccines of every type for every purpose, resulting in the loss of confidence of the public in the vaccines of accepted value.

The Physician's Library

(Continued from Page 458)

may be obtained between the pediatrician, general practitioner, intelligent mother, nurse or attendant.—M.B.M.

THE COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION FOR 1931: Volume XXIII. Edited by Mrs. Maud H. Mellish-Wilson and Richard M. Hewitt, B.A., M.A., M.D. Octavo Volume of 1231 pages with 265 illustrations. Philadelphia and London. W. B. Saunders Company, 1932. Cloth, $13.00 net.

Nearly 200 papers go to make up this volume of valuable medical material That which has been selected has come from papers written by members of the staff of the Mayo Clinic and the Mayo Foundation.

The grouping of the subjects more or less anatomically permits ready reference. The papers have been chosen with the idea of furnishing a useful work for the general practitioner, the diagnostician and the general surgeons.—M.B.M.

DISEASES OF THE BLOOD, by A. Piney, M.D. Second edition. P. Blakiston's Son and Company, Inc., Philadelphia. Price, $4.00.

This book presents a very excellent review of the subject of blood and associated conditions. There are numerous colored plates of blood cells, both of circulating blood and from the bone marrow. There are also numerous plates of pathological tumors of blood disease origin. One of the newer subjects covered in detail is the Schilling count giving considerable space to illustrative clinical cases. Ample space is devoted to the different anemias showing the methods of differentiating the various types. Nothing specially new is presented upon this subject but they are nicely grouped for comparison. This book can be recommended for the internist, the surgeon and the pathologist.—J.L.L.

THE SURGICAL CLINICS OF NORTH AMERICA: (Issued serially, one number every other month.) Volume 12, No. 5. (Chicago number—October 1932.) Octavo of 268 pages with 61 illustrations. Per clinic year, February 1932 to December 1932. Paper, $12.00; Cloth, $16.00 net. Philadelphia and London. W. B. Saunders Company, 1932.

In this Chicago number Dr. Arthur Dean Bevan and his colleagues Doctors Abbott and Rose present a series of clinics on gall bladder disease including a thorough discussion on cholecystography.

From the clinic of Doctors Hedblom and Van Hazel a variety of chest cases are presented with their method of handling each. They emphasize the value and describe the technique of phrenico exeresis in the treatment of unilateral pulmonary tuberculosis.

Electrocoagulation in the practice of otolaryngology is discussed in detail in the clinics of Doctors Shambaugh, Yonker and Dougherty. Their general conclusions are that in certain nasal conditions electrocoagulation may be very satisfactory but in the hypertrophy of the lingual tonsil surgical removal is much to be preferred. They state that end results of electrocoagulation often are very unsatisfactory and discouraging.

Dr. Speed's case report of delayed tetanus after open fracture is extremely interesting and most instructive to all interested in traumatic surgery. Dr. Heaney gives a word of caution as to the use of radium in benign diseases of the uterus. Dr. Davis discusses breech presentation and its treatment. Dr. Martin's cases of cancer of the rectum and sigmoid are of value to the man in general practice as well as the surgeon. Many other interesting clinics are also presented in this volume.—M.B.M.

RECENT MEDICAL LITERATURE

Edited by
WILLIAM C. MENNINGER, M.D., Topeka

BRAIN CHANGES IN ENDOCARDITIS

Diamond presents a series of 13 fatal cases with malignant endocarditis. Cerebral lesions in this disease are extremely common. All of the 13 fatal cases showed pathologic lesions in the brain, even when definite clinical manifestations other than those usually regarded as of septic origin were absent. In some cases, however, the cerebral symptoms dominated the clinical picture. The lesions of the brain represent reactions of the nerve tissue to the infectious process that underlies malignant endocarditis. The author draws the following conclusions: (a) that changes in the brain are frequent in malignant endocarditis; (b) they are both circumscribed and diffuse; (c) the circumscribed lesions are usually in the form of nodules; (d) the diffuse lesions are in the form of a meningoencephalitis; (e) both are manifestations of a defense reaction against an infection and intoxication; (f) the latter is responsible for degenerative changes; and (g) other changes (softening and necrosis) are secondary, the results of vascular embolism or thrombosis.

(Brain Changes in Malignant Endocarditis: Diamond, I. B., Archives of Neurology and Psychiatry: 27: 1174-1209, May, 1932.)

QUININE HYDROCHLORIDE IN SCLEROSIS

Brickner presents experiences with the use of quinine hydrochloride in the treatment of 16 patients with multiple sclerosis over a period of one year. The theory of quinine therapy rests on the hypothesis suggested but not yet proved, that the lesions are caused by abnormal lipolytic activity of the blood, and that this activity may be due to the presence of an abnormal lipase. The effects of the treatment have been studied symptom by symptom. The treatment as presented is 5 grains (0.32 gm.), three times a day, by mouth, unless sensitiveness to the drug has necessitated the employment of a smaller dose. If patients are unable to tolerate 15 grains (0.97 gm.) a day at the beginning, the medication is stopped and given again four days later. Usually 2½ grains (0.16 gm.), two or three times a day will be tolerated, and it is generally possible slowly to work back to three 5 grain doses. As with other forms of medication the proper dose must be determined separately for each patient. During the occurrence of cinchonism many patients show a relapse of all symptoms, with recuperation on omission of the drug, however, it must be readministered to prevent a second regression. After improvement sets in and reaches a more or less constant level, it is wise to interrupt the administration of the drug frequently. As a result of this treatment, the author found that 40 symptoms of short duration showed marked improvement; thirty-three symptoms did not improve, but most of them were old. All of the improvements but one have been maintained at a fairly constant level at the time of the publication of this article. Only three of the unimproved symptoms had regressed. The writer concluded that the actual therapeutic value of quinine in this disease can not be made until more cases have been studied over a longer period of time. However, specificity in the effect of quinine is suggested by: (a) the relative fixity of the interval between the initiation of treatment and the beginning of improvement; (b) the grouping, by duration, of symptoms which have not improved; and (c) the fact that the most recent symptoms have improved not only the most promptly, but also the most completely.

(Experiences in the Treatment of Multiple Sclerosis with Quinine Hydrochloride: Brickner, Richard M., Archives of Neurology and Psychiatry, 28:125-132, July, 1932.)

CHRONIC APPENDICITIS

The author limits his discussion to chronic appendicitis—with pain, usually of long duration, either repeated or persistent, in the right lower quadrant, with no rise in temperature nor leucocytosis. There is a rather general agreement that two types of chronic appendicitis can be differentiated. First: the repeated painful attacks usually starting with an acute attack. There are only one or two dissenters from the opinion that such pa-

tients should have appendectomy. Second: there is a second group described alike by no two writers in which most of the difficulty and confusion lie. This is made up of cases of persistent right-sided pain with reflex gastro-intestinal symptoms of various forms. Saltzstein draws the conclusion that chronic appendicitis should always be an exclusion diagnosis. That certain types and age groups are more apt to have chronic appendicitis. All analyses have shown that complicating conditions—ulcers, gallbladder disease, ureteral and kidney conditions, etc.—are more frequent in the older patient. In children, the attacks may be milder, and are more frequently overlooked. The tenderness and pain may be located higher, at the level of the umbilicus, because the caecum frequently lies higher. There is not the confusion of diagnosis which ulcer, gallbladder disease, or salpingitis, bring in later life, but there is more apt to be abdominal pain referred from pulmonary or upper respiratory infection than in adults. Incidentally, the incidence of acute appendicitis is higher in epidemics of upper respiratory infections than at other times. The writer is more inclined to believe a child when he complains of transient, but repeated bellyache than an adult, and thinks these cases usually are appendicitis.

(Chronic Appendicitis: Saltzstein, Harry C.: Annals of Internal Medicine: 6:278-289, August, 1932.)

THE OCCURRENCE OF CYSTINURIA

The urines of a total of 10,534 students were examined (6,253 men, 4,281 women) by one of the two chemical tests for cystine. The first and simpler of these tests is the cyanide-nitroprusside test, which has been used as a test for cystine for some years. A second *more specific* but less simply performed test is the naphthoquinonesulfonic acid test of Sullivan. The results are summarized as follows. In this series four individuals were observed in whose urine cystine crystals were usually present. These urines presented the typical picture of cystinuria, have given strongly positive cyanide-nitroprusside and Sullivan tests, and, as shown in the tables given, the percentage of urinary organic sulfur was distinctly higher than normal, a characteristic of cystinuria. In addition 14 individuals were examined repeatedly in whose urines strongly positive tests by both cystine reaction were regularly obtained although cystine crystals had never been present in the urine. The urines of a third group of 11 individuals consistently showed weak tests for cystine by both the cyanide-nitroprusside and Sullivan reactions and in many of these urines the percentage of organic sulfur of the urine have been found to vary only slightly from the normal values. The urines of still a fourth group of 11 individuals gave occasional weakly positive color tests, particularly by the cyanide-nitroprusside reaction; but the sulfur distribution of these urines have been normal.

(The Occurrence of Cystinuria in Healthy Young Men and Women: Lewis, Howard B., Ph.D., Annals of Internal Medicine: 6:183-193, August, 1932.)

RHEUMATIC FEVER

Following a discussion and two case illustrations the author draws the following conclusions. The etiology of rheumatic fever can be explained only when its connection with acute sore throat caused by the hemolytic streptococcus is understood. It cannot be described as a contagious disease in the ordinary sense of the word, as more than one factor is responsible for its development. The streptococcal infection of the throat is no doubt contagious in the epidemic sense, but is followed by rheumatic fever only in certain patients. There is some evidence to support the fact that before rheumatic fever can develop, the patient must have been previously in a pre-rheumatic condition, characterized by a changed tissue reaction to the organism or its product. This hypothesis, however, must for the present be considered under judgment.

(The Contagious Factor in the Etiology of Rheumatic Fever: Collis, W. R. S. (Contab), American Journal of Diseases of Children: 44:485-494, Sept., 1932.)

COUNTY SOCIETY NEWS

BARTON COUNTY MEDICAL SOCIETY

A joint meeting of the Barton and Ford County Medical Societies was held at St. Rose Hospital in Great Bend, Kansas, Nov. 9, 1932, attended by 40 physicians from the southwestern part of the state.

Dinner was served by the Hospital Sister's and following this a five reel silent picture "Cancer of the Skin," prepared by Dr. Joseph Colt Bloodgood at Johns Hopkins, was showed. It proved instructive to all who saw it.

The Ford County Society was represented by Dr. C. L. Hooper, who presented the subject "State Medicine" in a manner showing much thought and study had been spent on the subject.

Reno County Medical Society presented through Dr. H. W. Duvall of Hutchinson, a case report of "Treatment of Chronic Osteomylitis with Maggots" and this was well received.

Those attending were: Doctors Scales, Beall, Duvall, Boyd, Quiring, Schoor, Richmond, William and Etta Mundell of Hutchinson; Klein, Pine, Hooper, Williams and Janney of Dodge City; Dillon, Fuson and Sheppard of Larned; Truheart and Currie of Sterling; Lyon and Leiker of Ellinwood; Speirs of Spearville; Spearing of Cimarron; Beyer of Little River; Wallace of Chase; Staatz of Bushton; Leonard and McBride of Lyons; Gaede of St. John; Brown and McGill of Hoisington; A. Button, Don Kendall, Morrow, Russell, Wheeler, Embry and Zugg of Great Bend.

L. R. McGill, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met in monthly session at the McCoy Hotel, November 10, 1932, at 7:00 p.m. Drs. Scott and VanScoyoc entertained the society and a number of guests to a duck dinner. At 8:00 p.m. the meeting was called to order by President Carr. An application for membership was read, signed by Roy Bruce McVay of Linn, Kansas.

Dr. Paul A. Gempel of Kansas City, Missouri, guest speaker of the evening, was presented to the society and gave a very interesting, instructive and practical lecture on "The Management of Posterior Presentations." The lecture was discussed: Doctors Dixon, Porter, Clark, Croson, VanScoyoc, Scott, Warren Morton, and Carr. Dr. Gempel's replies were brief and complete.

Dr. Scott requested information on the proposed new legislation for a state registration fee of all doctors.

Motion by Dr. Croson that the society give a rising vote of thanks to Drs. Scott and VanScoyoc for their excellent dinner and extreme hospitality, seconded by Dr. Martin. Motion carried.

Motion by Dr. Algie, seconded by Dr. VanScoyoc that Dr. Gempel be made an honorary member of the society. Motion carried.

Nine members and nine visitors were present. The visitors were as follows: Doctors Gempel, Irwin S. Brown and Bierline, Kansas City, Mo.; Steadman of Junction City; McVay of Linn; Porter and Kosar of Concordia; Clark of Clyde and Totten of Clifton.

J. Leonard Dixon, M.D., Secretary.

SHAWNEE COUNTY MEDICAL SOCIETY

The Shawnee County Medical Society met in regular session at the Topeka State Hospital, November 7, 1932. The program was presented by members of the staff and included:

Huntington's Chorea (clinical cases) —Doctors Chapman and Smith.

Some Clinical Manifestations of the Pathogenesis of Dementia Precox—Dr. M. Gerundo.

Dr. Henry M. Benning was elected to membership.

The annual meeting of the Shawnee County Medical Society was held at the Hotel Jayhawk, December 5. There were 167 members with their wives and visitors for dinner. More than 200 listened to a most interesting lecture by Dr. Richard L. Sutton of Kansas City, Missouri, on his recent trip to the Arctic. The lecture was profusely illustrated by lantern

slides from the original photographs taken by himself, Dr. Richard L. Sutton, Jr., and Emmy Lou Sutton, F.R.G.S.

Officers elected for the year 1933: Marvin Hall, president; Guy A. Finney, vice president; Milton B. Miller, treasurer, and Earle G. Brown, secretary. Dr. W. M. Mills was elected to the board of censors.

EARIE G. BROWN, M.D., Secretary.

WILLIAM AUGUST PUCKNER

The Council on Pharmacy and Chemistry, American Medical Association, has unanimously adopted the following report of the Committee on Resolutions on the death of William August Puckner:

William August Puckner was born February 24, 1864, at New Holstein, Wisconsin. He died in the Presbyterian Hospital, Chicago, October 1, 1932. He had been in failing health for a long time and in the hospital some ten weeks.

The creation of the Council on Pharmacy and Chemistry was authorized by the Board of Trustees of the American Medical Association February 3, 1905; the first meeting of the newly created Council was held at Pittsburgh some ten days later. Professor Puckner, one of the original members, attended that meeting and was active in formulating the principles on which the Council has worked, as expressed in its official rules of procedure. One year later he became Secretary, a position of grave responsibility; he filled it well and faithfully for twenty-six years and seven months. Professor Puckner was well equipped for the position he had assumed. A graduate of the Chicago College of Pharmacy, now the Illinois School of Pharmacy, he later became Professor of Chemistry in that school. He took a course of chemistry at Harvard University and later studied at the University of Heidelberg. He received the honorary degrees of Doctor of Pharmacy, from the University of Pittsburgh, and Master of Pharmacy, from the Philadelphia School of Science. Doctor Puckner was an outstanding chemist and at the time of his appointment as Secretary of the Council he had already won for himself an enviable reputation in the field of alkaloidal chemistry. He was a charter member of the Chicago Section of the American Chemical Society and was elected chairman of that section in 1895. For some years Doctor Puckner was chief chemist for a pharmaceutical firm known as "Searle and Hereth" and this, added to his experience as professor in the school of pharmacy, gave him an intimate knowledge, from every angle, of the work he was undertaking. On accepting the secretaryship he, of course, gave up his connection with this firm. Doctor Puckner was endowed with an especially good memory which possibly became more acute when he became blind. If he were asked about a product that had been before the Council months or years before, without referring to the bulletin or any other records, it was seldom that he was unable to give in detail every action taken that lead to its acceptance or rejection. Under his direction, the weekly bulletin—the medium by which the Council transacts its business—became a model of efficiency. But of much more importance in this Council work was his personality, his attributes, his characteristics. While occasionally he had to meet, personally, representatives of firms submitting products, he preferred wherever possible the more deliberate practice of correspondence. In this he exhibited tact, patience, resourcefulness, qualities that were absolutely necessary for a successful solution of the many problems that were continually coming up. In all such cases Doctor Puckner was able to see and appreciate the point of view of the other side, the manufacturer. When his eyes began failing and when he realized that the condition would inevitably result in blindness, Professor Puckner courageously prepared himself to face the handicap. He investigated the practicability of Braille's system for the blind and the typewriter; both of these he used. He kept in touch with current medical and chemical literature, both English and foreign, especially German, by having matter read to him, and in the case of important articles, recorded on the dictaphone for review at home; for his determination to overcome this disability compelled him to work at night as well as day. To those who knew him

at his daily work, Doctor Puckner seemed to have dedicated his life to that which seemed nearest to his heart—the success of the Council and its efforts to advance scientific therapeutics. With patience in adversity, with sincerity of purpose, with conscientious devotion, he carried on. His heart was in his work: His life devoted to the cause he served.

The Council, individually and collectively, wish to express their high regard and affection for Professor Puckner as a friend and co-worker and admiration for the way he carried on, for his executive ability, for his efficiency in spite of handicap, for his loyalty. In his death, the Council has lost a member of unique value: THE MEDICAL PROFESSION, a servant who unobtrusively served it faithfully for a quarter of a century.

DEATH NOTICES

Isham Henry Anthony, Kansas City, aged 42, died October 21, 1932, of chronic myocarditis. He graduated from University of Pennsylvania School of Medicine in 1895. He was not a member of the Society.

Frank Greene Ellis, Veteran's Administration Home, aged 63, died September 13, 1932, of angina pectoris. He graduated from Barnes Medical College, St. Louis, in 1906. He was not a member of the Society.

Alonzo L. Golightly, Topeka, aged 57, died October 23, 1932, of paralysis agitans. He graduated from Marion-Sims-Beaumont Medical College, St. Louis, in 1903. He was a member of the Society.

Albert Eugene Harrison, Herington, aged 41, died October 11, 1932, of spondylitis deformans. He graduated from University Medical College, Kansas City, Missouri, in 1912. He was attending surgeon, Herington Hospital Association, and a member of the Society.

James W. Henderson, Ft. Scott, aged 86, died October 12, 1932, of chronic nephritis. He graduated from Indiana Medical College, Indianapolis, in 1876. He was not a member of the Society.

Ralph Waldo Hull, Nortonville, aged 53, died September 30, 1932, of cerebral hemorrhage. He graduated from Kansas City Medical College in 1905. He was a member of the Society.

Archibald Doerr Jones, Wichita, aged 55, died October 30, 1932, of cancer of sigmoid colon. He graduated from Barnes Medical College, St. Louis, in 1898. He was a member of the surgical staff of St. Francis Hospital, Wichita, and a member of the Society.

Richard A. Marshall, Wichita, aged 74, died October 11, 1932, in Wesley Hospital of chronic nephritis. He graduated from University of Tennessee College of Medicine, Memphis, in 1884. He was not a member of the Society.

Russell William Reed, Almena, aged 34, died October 8, 1932, of pulmonary tuberculosis. He graduated from Washington University School of Medicine, St. Louis, in 1928. He was not a member of the Society.

Thomas A. Stevens, Caney, aged 76, died October 2, 1912, of leukemia. He graduated from Kansas City Medical College in 1892. He was formerly mayor of Caney, member of the Board of Education and postmaster. He was a member of the Society.

A TRIBUTE TO DR. JONES

Once more we must pause to chronicle the passing from the haunts of the living of another of our most worthy and best beloved confreres. Dr. Arch D. Jones, who had lived in Wichita since his early youth, was summoned from the field of his earthly labors at the age of 56 while still at the height of his professional activities.

Dr. Jones was graduated from Barnes Medical College in St. Louis, Mo., in the year 1898. Having pursued his chosen vocation for more than 34 years he may rightly be considered as one who stood between the old and the modern type of physician, for in his personality he ex-

hibited much of the fine qualities of both. He was initiated into the study of medicine under the tutorship of the late Dr. J. W. Kirkwood, himself a most excellent and highly respected physician. After graduation he was associated with the lamented Dr. Oldham, at that time surgeon for the Rock Island Railroad for this district. His life's activities were concentrated on the practice of medicine viewed from the humanitarian standpoint. His charities were many and varied although known to but few and entirely without parade. He was a constant friend and benefactor to the orphan, and an active worker in the Christian Service League to which he contributed liberally both of his time and substance. His deeds of charity were varied and many indeed. The interns and the nurses about the hospital respected and revered him for his dignified yet suave and gentle bearing toward all with whom he came in contact. He was loyal in the highest degree to his country, and faithful to his church, thus complying with Aristotle's requirements for good citizenship, viz.: Adore the gods and obey the laws of the land. He cherished an abiding and an unwavering faith in the life beyond the grave that bereft his transition of every vestige of fear. His triumphant departure from the world was that of the Christian philosopher, at the same time void of dread and full of hope for the future. When his aged mother queried, "Archie, are you ready? Is it all right?" he replied, promptly, "Mother, I know it's all right." When the writer paid him a visit he was greeted with, "I beat you to it," then added, "I have always tried to play a fair game."

Such was the most impressive exit from the material world of a brave and noble character. The Medical Guild has lost an able, honorable and lofty-minded member. The community is bereft of an upright and highly valued citizen.

David Walker Basham, M.D., F.A.C.S.

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KANSAS MEDICAL AUXILIARY

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SEDGWICK COUNTY AUXILIARY

Members of the Sedgwick County Medical Auxiliary were entertained at tea Monday afternoon in the home of Mrs. E. M. Seydell of 400 North Crest Way.

Red dahlias in a silver bowl formed the centerpiece of the tea table with tapers burning at either side. Mrs. E. J. Nodurfth and Mrs. Fred J. McEwen presided at the tea table.

Dr. Claude C. Tucker gave a talk on his hobby, "Birds" and the Twentieth Century quartet, consisting of Miss Evelyn Watkins, Miss Mildred Munson, Miss Mary Woodard and Miss Dorothy Herndon, accompanied by Mrs. Roy Campbell sang, "The Bridegroom" by Brahm, "I Hear a Thrush at Eve" by Cadman, and "Come Down Laughing Streamlet" by Spross. Miss Herndon also read "The Old Chest Upstairs."

WILSON COUNTY AUXILIARY

The Ladies' Auxiliary to the Wilson County Medical Society met for a covered dish dinner on the evening of October 10 in Neodesha at the home of Mrs. J. W. McGuire. A beautiful centerpiece of dahlias, cream colored roses and ferns decorated the dining table and bud vases containing cream colored rose buds centered each of the smaller tables used.

Following the dinner a business session was held with the president, Mrs. W. H. Young presiding and roll call was answered by giving "Items of Interest to the Auxiliary." The program for the year was submitted to the members and was accepted. A report of the state meeting called on September 26 at Hia-

watha was given by Mrs. E. C. Duncan.

Guests of the auxiliary for the evening were Miss Anne Sheedy of St. Louis, Missouri, and Mrs. L. C. McGuire of Neodesha.

The November meeting of the organization will be held in Fredonia.

TRUTH ABOUT MEDICINES

In addition to the articles enumerated in our letter of September 24 the following have been accepted:

Lederle Laboratories—Solution Liver Extract (Lederle) for Oral Use.

Parke, Davis & Co.—Diphtheria Toxin Diluted for Schick Test. Diphtheria Toxoid, 30 c.c. vial hospital packages.

The following articles have been included with the List of Articles and Brands Accepted by the Council but not described in N.N.R. (New and Non-official Remedies, 1923, p. 487):

Smith Oil & Refining Company—Smith's Mineral Oil.

New and Nonofficial Remedies

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Pentnucleotide—The sodium salts of the pentose nucleotides from the ribonucleic acid of yeast. Pentnucleotide is proposed for use in infectious conditions accompanied by a leukopenia or neutropenia, such as agranulocytic angina. It is marketed in the form of Vials Pentnucleotide, 10 c.c. Smith, Kline & French Laboratories, Philadelphia, Pa. (Jour. A.M.A., October 1, 1932, p. 1175).

Liver Extract—Parke, Davis & Co.—A light brown granular powder representing a water-soluble fraction of mammalian liver, which contains the substance effective in the treatment of pernicious anemia. It is supplied in vials containing an amount of powdered extract (3 to 3.5 gm.) obtained from 100 gm. of fresh liver. Parke, Davis & Co., Detroit.

Liver Extract (Intramuscular)—Parke, Davis & Co.—A sterile aqueous solution, containing the nitrogenous nonprotein fraction G of Cohn et al. obtained from fresh mammalian liver. Liver Extract (Intramuscular)—Parke, Davis & Co. is used in the treatment of pernicious anemia. It is supplied in the form of 2 c.c. glaseptic ampoules, each c.c. containing the active material obtained from 5 gm. of liver. Parke, Davis & Co., Detroit.

Undulant Fever Bacteria Vaccine.—A heat killed suspension in physiologic solution of sodium chloride of Brucella melitensis (The Journal, February 6, 1132, p. 480), var. abortus (bovine type, 50 per cent; porcine type. 50 per cent), preserved with 0.5 per cent of phenol. Each cubic centimeter contains six billion killed organisms. The product is marketed in packages of six 2 c.c. vials. Jensen-Salsbury Laboratories, Inc., Kansas City, Mo. (Jour. A.M.A., October 8, 1932, p. 1262).

Biliposol.—A complex compound of high molecular weight, the chemical structure of which has not been established, combining bismuth and (a) carboxethyl (b) methyl nonoic acid. It contains about 45 per cent of bismuth. Biliposol is proposed as a means of obtaining the systemic effects of bismuth in the treat-

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Neurologist and Addictologist

HERMON S. MAJOR, M.D.,
Neuro-Psychiatrist

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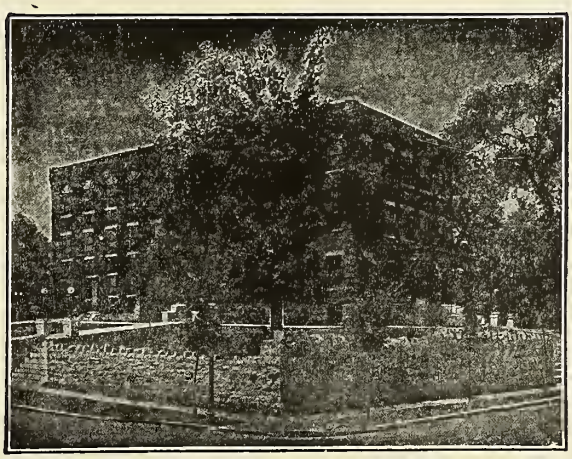

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ment of syphilis (see Bismuth Compounds, New and Nonofficial Remedies, 1932, p. 100). It is marketed in 2 c.c. ampoules. Ulmer Laboratories, Minneapolis. (Jour. A.M.A., October 22, 1932, p. 1424).

Gas Gangrene Antitoxin (Combined).—An anaerobic antitoxin (New and Nonofficial Remedies, 1932, p. 359) prepared by immunizing horses against the toxins of B. perfringens (B. welchii) and vibrion septique. The product is marketed in packages of one syringe containing 10,000 units of perfringens antitoxin and 10,000 units of vibrion septique antitoxin. Eli Lilly & Co., Indianapolis. Ind.

Tetanus-Gas-Gangrene Antitoxin (Combined).—An anerobic antitoxin (New and Nonofficial Remedies, 1932, p. 359) prepared by immunizing horses against the toxins of B. tetani, B. perfringens (B. welchii), and vibrion septique. The product is marketed in packages of one syringe containing 1.500 units of tetanus antitoxin, 1,000 units of perfringens antitoxin and 1,000 units of vibrion septique antitoxin. Eli Lilly & Co., Indianapolis, Ind.

Tuberculin Intracutaneous for Mantoux Text.—This tuberculin-Koch preparation (New and Nonofficial Remedies, 1932, p. 376) is marketed in packages of one intradermal syringe (single test); in packages of two intradermal syringes (double test); in packages of 1 c.c. ampule; in packages of two 1 c.c. ampules, in packages of one 5 c.c. ampule; and in packages of two 5 c.c. ampules. The National Drug Co., Philadelphia. (Jour. A.M.A., October 29, 1932, p. 1511).

Foods

The following products have been accepted by the Committee on Foods of the American Medical Association for inclusion in Accepted Foods:

Lightning Flour (Bleached) (Bob White Flour Mills, Kingfisher. Okla.)—A "standard patent" "all purpose" hard wheat flour; bleached.

Mello-Wheat Breakfast Food (The Quaker Maid Company, Inc., New York, packer; The Great Atlantic & Pacific Tea Company, distributor).—Hard wheat "flour middlings" or farina. It is claimed to be for use as a breakfast cereal or other table dishes; also for infant feeding under the direction of a physician. (Jour. A.M.A., October 1, 1932, p. 1175).

McCormick's Relish Spread (McCormick and Company, Baltimore, Md.)—A mix of McCormick's mayonnaise (refined corn oil, egg yolk, distilled vinegar, salt, sucrose, mustard and paprika) and McCormick's sweet chopped pickle relish (lactic acid fermented cucumbers, cauliflower and onions, mixed with sucrose, distilled vinegar and peppers). It is used as a relish.

Blue Ribbon Brand—Unsweetened Evaporated Milk (Amboy Milk Products Company, Amboy, Ill., manufacturer; Oakford & Fahnestock, Peoria, Ill., distributor).—Canned unsweetened evaporated milk. The vitamins A, B, C and G of the fresh milk are claimed to be only slightly impaired. The mixture of equal parts of the evaporated milk and water is claimed to be not below the legal standard for whole milk. (Jour. A.M.A., October 8, 1932, p. 1263).

Malt-O-Meal (Campbell Cereal Company, Northfield, Minn.)—A mixture of farina (purified wheat middlings) with sufficient toasted malted barley to give the product a malt flavor. It is claimed to be a malt flavored farina breakfast cereal.

(a) King of Kansas Flour (Bleached); (b) Larabee's Cream Loaf Flour (Bleached); (c) Old Dominion Flour (Bleached (a) Monarch Milling Company, (b) Larabee Flour Mills Company, (c) Larabee Corporation; subsidiaries of the Commander-Larabee Corporation, Minneapolis).—"Standard patent" or "long patent" hard wheat flours; bleached. (Jour. A.M.A., October 15, 1932, p. 1353).

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Davis OK Baking Powder (R. B. Davis Company, Hoboken, N. J.)—A baking powder containing sodium bicarbonate, monocalcium acid phosphate, sodium aluminum sulphate, corn starch, and a small quantity of dried white of egg.

Cedar Hill Brand Tomato Juice (American Packing Corporation, Evansville, Ind., manufacturer; Hassendeubel Grocery Company, St. Louis, distributor). —Canned tomato juice which retains in large measure the vitamin content of the raw juice used. It contains a small amount of added salt. It is claimed to be a good source of vitamins A and B and an excellent source of vitamin C. (Jour. A.M.A., October 22, 1932, p. 1424).

Accepted Devices for Physical Therapy

The following has been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Barach-Thurston Solarium Oxygen Tent.—This unit is claimed to be an adjunct in the treatment of anoxemia resulting from acute pulmonary edema, coronary thrombosis, cardiac decompensation, pneumonia and carbon monoxide poisoning. The oxygen tent consists of an air-conditioning and oxygen enriching unit, connected to a rubberized tent canopy supported above the bed, for the purpose of administering to a patient oxygen or a combination of oxygen and carbon dioxide. It is capable of maintaining therapeutic air environment at or below room temperature. Fan speed and volume of circulation are controlled by an electric motor-blower with multistep rheostat. Oxygen Therapy Service, Inc., New York. (Jour. A.M.A., October 15, 1932, p. 1352).

Propaganda for Reform

Wack's Gallbladder Capsules.—Norman A. Wack, a druggist of Wayne, Pa., put out a preparation called "Gallbladder Capsules" sold on the mail-order plan. An original package of the Gallbladder Capsules was purchased direct from Norman A. Wack and was submitted by the Bureau of Investigation to the A.M.A. Chemical Laboratory for investigation. The Laboratory reported that the contents of the capsules varied in weight about 24 per cent, and from its analysis concluded that the contents of Wack's Gallbladder Capsules were essentially sodium succinate. It appears, therefore, that Mr. Wack was dispensing about 700 grains of sodium succinate in crudely filled capsules for $3. Sodium succinate can be purchased at $1.37 a pound. This means that twenty cents would be a liberal estimate of the actual cost of the material for which Mr. Wack charges the public $3. While, in the past, sodium succinate has been held by some to have value in the treatment of cholecystitis, there has never been developed any scientific evidence to support the claim. (Jour. A.M.A., September 3, 1932, p. 848).

Acetarsone (Stovarsol) in Amebiasis.—Reports have appeared on the favorable use of the drug in amebiasis, but they are conflicting as to its therapeutic efficiency and toxicity. Experimentally it has been shown to be approximately four times as toxic as originally noted, when administered orally to rabbits and cats. Clinical cases of poisoning are not uncommon, even when therapeutic amounts of the drug are used. New and Nonofficial Remedies states that the physician should remember that he is working with a rather toxic arsenical preparation, which may give rise to gastro-intestinal symptoms, as well as to the same cutaneous disturbances that are found with the arsphenamines, and that at the least sign of intolerance the physician should discontinue the

THE ROBINSON CLINIC

Tumors of the spinal cord may be of two types. First, tumors that arise from the cord itself and its membranous coverings, and secondly, the compression tumors that develop from the bones and cartilage of the bony support. Pathologically, there is the third type the metastatic tumors, such as prostatic carcinoma, which seems to be prone to invade the lumbar vetebrae.

Cord tumors give two sets of symptoms. First, the symptoms that arise from destruction of the nervous tissue. Naturally, these symptoms depend on the location. But, we may say that progressive symptoms of motor and sensory paralysis which involve all types of sensation, should make one very suspicious of cord tumor. In addition, at the level of the lession and below, there are usually vasomotor disturbances, such as flushing of the skin and dermagraphia. These should be looked for and may occur in other cord diseases.

Secondly, we find the symptoms of block of the spinal canal, which is determined by spinal puncture. If the block is complete, the fluid will be discolored and pressure on the jugalars will produce no rise in the manometric reading at the lumbar tap. Partial block gives nervous variations of the normal reading.

Surgery is the only treatment and must be instituted as soon as the diagnosis is made.

Airplane View
—Courtesy Curtiss-Wright Flying Service

Nervous and Mental Diseases

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G. Wilse Robinson, Jr., M.D.
Assoc. Medical Director

Paul A. Johnson, M.D.
Internist

use of the drug for the time being. There seems to be no doubt that other amebacides, arsenical and nonarsenical, are available which have equal and greater amebacidal action and are less toxic than acetarsone. (Jour. A.M.A., September 3, 1932, p. 851).

Vitalized Water Process Company.—Some ten years ago the Bureau of Investigation received its first inquiry regarding the device called the "Vitilor," said to be invented by a Miss Carolyn Scofield Smith and promoted by the Vitalized Water Process Company. The Vitilor was described as a tank of about two quarts' capacity, so made that water could be introduced at the bottom through which it was forced through charcoal and then passed through a small screen into and through a chamber containing fine particles of aluminum. A six page leaflet compiled by Carolyn Scofield Smith and sent to physicians and others, stated, either directly or by implication, that the Vitilor would cure among other things tuberculosis, diabetes, ulcerated teeth, chronic nephritis, pyelitis, asthma, pneumonia, high blood pressure and "water on the knee." Now the post office authorities have issued a fraud order, debarring from the United States mail, the Vitalized Water Company and the Vitalized Water Process and their officers and agencies. According to a memorandum of the Solicitor for the Post Office Department to the Postmaster General, the Vitalized Water Company and the Vitalized Water Process, are owned and operated by Miss Carolyn Smith. The Vitilor sold for $45.00, the cost price, according to the memorandum, being $10.50. The postal authorities had one of the Vitilors tested. The amount of metallic residue that was found in distilled water passed through the Vitilor in accordance with the directions was absurdly minute and there was introduced by the government evidence showing that the mineral content of ordinary tap water in various cities is largely in excess of the inconsequential amount added to water that has passed through the Vitilor. The Solicitor's memorandum concluded that uncontroverted expert medical testimony in this case shows that the various diseases and ailments claimed to be benefited, cured or prevented by drinking the quantities of water passed through the "Vitilor" as prescribed by the respondent will in no instance be benefited, and that this is a scheme for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises. The fraud order was issued July 6, 1932. (Jour. A.M.A., September 10, 1932, p. 934).

Adulterated or Misbranded Pharmaceuticals.—Notices of Judgment were issued between July, 1931, to June, 1932, inclusive by the Food and Drug Administration of the United States Department of Agriculture against the following pharmaceutical products that were found adulterated or misbranded: Acetphenetidin Tablets (Syracuse Pharmacal Company, Inc.); Aconite Tincture (Sharp and Dohme); Almond Oil (Yglesias and Company, Inc.); Caffeine Citrated Tablets (Syracuse Pharmacal Company, Inc.); Chloroform (no manufacturer's or shipper's name given); Cinchophen Tablets (C. E. Jamieson and Company); Corrosive Sublimate Tablets (Elmira Drug and Chemical Company); Ergot (F. W. Berk and Company, Inc.; J. L. Hopkins and Company); Ergot, Fluid Extract (John Wyeth and Bros., Inc.; Hance Bros. and White, Inc.; Sharp and Dohme; Upjohn Company; Allaire Woodward and Company); Ergot of Rye (F. W. Berk and Company); Ether (Mallinckrodt Chemical Works; Merck and Company; American Solvents and Chemical Corporation; J. T. Baker Chemical Company; New York Quinine and Chemical Works; General Chemical Company; Rossville Commercial Alcohol Corporation); Ginger, Fluid Extract (Jordan Bros.; Richard Ray (Emerson Medicine Company); Magnesium Citrate Solution (National Magnesia Company); Malt Extract with Yerba Santa (Trommer Company); Nitroglycerin Tablets (Syracuse Pharmacal Company; Elmira Drug and Chemical Company); Sodium Nitrite Tablets (C. E. Jamieson and Company); Strychnine Sulphate Tablets (Elmira Drug and Chemical Company); Valerian Tincture (Jordan Bros. Company). (Jour. A.M.A., September 17, 1932, p. 1012).

Nacor.—"Nacor" is marketed by the Nacor Medicine Company of Indianapolis. According to information received, the president and treasurer of the Nacor Medicine Company is one M. L. Haymann, while the vice president and secretary of the company is Haymann's wife. None of those connected with the Nacor Medicine Company, so far as we have been able to learn, has any knowledge of medicine or pharmacy. Some years ago M. L. Haymann was connected with a crude consumption-cure nostrum, sold on the mail-order plan, known as "Nature's Creation," a solution of potassium iodide in alcohol and water with vegetable extractives and flavoring, which was declared a fraud by the Post Office Department and debarred from the mails. Today, Milton L. Haymann is still selling a "patent medicine," but doubtless experience has taught him that it is expensive and risky to sell it as a "cure" for consumption—at least directly. Nacor is featured as a remedy for asthma and bronchitis with a good deal of stress laid on its alleged value in "chronic coughs." In a booklet of Nacor testimonials one reads of individuals whose alleged clinical symptoms savor strongly of tuberculosis. The A.M.A. Chemical Laboratory from an analysis of Nacor, concluded that the product contains essentially potassium iodide 5 per cent, ammonium chloride 2 per cent, and vegetable extractive dissolved in a solution containing 7 per cent alcohol (by volume). It is obvious from the Laboratory report that M. L. Haymann's new remedy for "chronic coughs," bronchitis, asthma, etc., is another of the potassium iodide, alcohol and water mixtures. It is equally obvious to physicians, but unfortunately not to the public, that sufferers from consumption who take a mixture of this kind may seriously jeopardize their chances of recover. (Jour. A.M.A., September 24, 1932, p. 1100).

Pepsin and Rennin.—The ability of gastric juice to clot milk has been ascribed to a special proteolytic enzyme, chymosin or rennin. Recently, the isolation, in comparatively pure form, of a rennin preparation from the mucosa of the fourth stomach of the calf, has been reported. This preparation shows the highest clotting power yet reported; at the same time it is practically devoid of peptic activity. The elementary composition and the properties of the preparation indicate that it is a thioproteose and, unlike pepsin, it contains neither chlorine nor phosphorus. Rennin is irreversibly inactivated by alkali, it is easily soluble in dilute acid, it is not coagulated by heat, it gives quite different protein color tests, it is not dialyzable, and it is soluble in water at its iso-electric point, whereas pepsin is not. The investigators have shown that the enzyme is present in the mucosa in the form of a precursor that becomes activated, as does pepsinogen, by hydrochloric acid. Efforts to obtain rennin in crystalline form, as has been accomplished for urease, pepsin, trypsin and amylase, are yet unsuccessful. (Jour. A.M.A., September 3, 1932, p. 835).

The Marie Carr Fraud.—During the past few years, a Chicago woman calling herself "Mrs. Marie Carr" has been selling on the mail-order plan alleged cures for diabetes, Bright's disease, sexual debility, obesity and many other conditions. Marie Carr actually was the maiden name of a Mrs. P. P. La Plant, who was not a physician, pharmacist or a chemist, and employed no one having these qualifications. According to the memorandum of Judge Horace J. Donnelly,

Solicitor for the Post Office Department, to the Postmaster General, recommending the issuance of a fraud order, Mrs. La Plant's enterprise consisted in the sale through the mails of herb-tea preparations. Mrs. La Plant stated that she had obtained certain formulas, which had been in use for more than two hundred years, and was importing the herbs. The government found that this woman purchased the herbs from a concern in Hammond, Ind. One of the herb teas which was sold as a "cure" for diabetes and Bright's disease was known as "Formula No. 232" which was found to consist of a mixture of sassafras bark, marshmallow root, couch grass, juniper berries and round dock. The herbs for sexual debility and, incidentally, for "night sweats," were called "Formula No. 114." This formula was found to contain fennel seed, bearbery leaves, gentian root, red clover flowers, round dock, mullein leaves and sage leaves. It was shown that such a combination would have no other effect than that of a diuretic and bitters and contained nothing that could prove curative or beneficial to those suffering from sexual debility. The obesity treatment, known as "Formula No. 56," was found to contain bladderwrack, horsetail, celery seed, pumpkin seed, sassafras bark, and angelica root. As with most quack "obesity cures," when the victim had paid for the medicine and received the package, he was told that it was necessary to omit from the diet a number of foods, and was also told to take certain exercises. In view of the obvious fraudulence of the scheme, the Solicitor's memorandum recommended that the Postmaster General issue a fraud order. It was issued on May 31, 1932. (Jour. A.M.A., September 3, 1932, p. 848).

Mouth Washes and Gargles.—The Council on Dental Therapeutics of the American Dental Association, founded and organized after the manner of the Council on Pharmacy and Chemistry of the American Medical Association, has begun to secure order in the complex and difficult field in which it works. Among the most recent of its publications is a consideration of the subject of mouth washes. The Council on Dental Therapeutics feels that the usual run of mouth washes are not medicines in any sense of the word and really serve no more intrinsic purpose than as an aid in the mouth toilet in the removal of loose food and debris. While the Council does not specifically attack the claims made for any widely advertised mouth wash, it does point out that the claim that a mouth wash removes mucin films is too remote to warrant serious consideration, which is, of course, a direct thrust at the claims made for such products as Mu-Sol-Dent. It continues with the assertion that the same statement applies to neutralization of mouth acidity; and to halitosis, which is a specific indictment of the advertised claims for such preparations as Listerine and Pepsodent. Before investing money in any of these toilet articles, therefore, the medical profession, the dental profession and the public will do well to realize the limitations of the products so far as concerns their value for the prevention and treatment of disease. (Jour. A.M.A., July 23, 1932, p. 310).

Misleading Vague Claims Such As "Recommended by Physicians, Medical and Health Authorities, Nurses, Dietitians, Hospitals, and Sanatoriums" and Equivalent Statements for Specific Foods.—The Committee on Foods reports that vague claims of recommendation, approval or use by physicians, health or medical authorities, nurses, dietetians, hospitals and sanatoriums for specific foods and statements of similar import in food advertising are misinformative and convey misleading implications of unique nutritional or therapeutic values, or that these professions or institutions as bodies have specially investigated and passed scientific or professional judgment on the particular products, which is not true to fact. Proper and correct explicit statements of special uses for or values of individual foods, or statements based on special studies by recognized authorities are permissible. (Jour. A.M.A., October 8, 1932, p. 1263).

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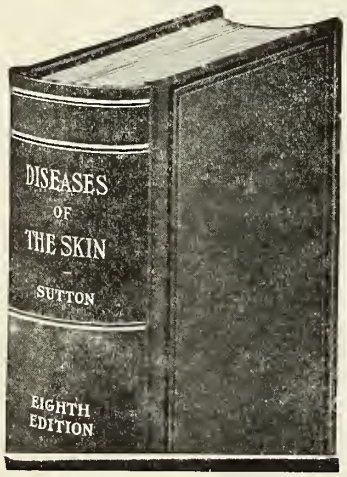

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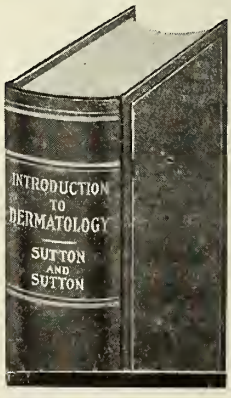

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